

Comments received during the external review of the first order draft of the sustainable use of wild species thematic assessment.
The review period was from Monday 26 August to Sunday 20 October 2019

Nb	Reviewer Name (Last, First)	Chapter	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comments / Feedback	Response from experts of the chapter
1	Germany	3	0	0	0	0	We encourage the authors to mention AIHTS in this ch. (https://en.wikipedia.org/wiki/Agreement_on_Humane_Trapping_Standards) in Chapter 3.2.1.2 or 3.3.2.2.3.	Thank you for your comment. However, we did not include consideration of trapping techniques here because it is out of scope of our chapter
2	Bélanger, Julie	3	0	0	0	0	Please ensure that when presenting figures from other publications, to include explanatory notes.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
3	Damayanti, Ellyn	3	0	0	0	0	Renumbering of figures in the paragraph is necessary -- some Figure numbers in paragraphs are not matched with the following figures number (caption) under the figure/picture. Made confusion during review.	Thank you for your comment. We have included it in the new version.
4	Damayanti, Ellyn	3	0	0		0	It will be useful if there is reference to Annex I in the body of Chapter 3.	Thank you for your comment. We have included it in the new version.
5	Fisher, Sue	3	0	0	0	0	19,000 jobs around the world (Cisneros-Montemayor AM, et al. The global potential for whale watching. Marine Policy (2010), doi:10.1016/	Thanks for this suggested change. We have included it in the new version.
6	White, Michael	3	0	0	0	0	Very good	Thank you for your comment. The positive feedback is greatly appreciated.
7	Bélanger, Julie	3	0	0	0	0	Probably this will come at a later stage, but it seems the confidence framework is not used in this chapter.	Thank you for your comment. We have included it in the new version.
8	Cooney, Rosie	3	0	0	0	0	I have not reviewed this chapter comprehensively, but it clearly needs a lot of work to avoid repetition and to synthesise. It is covering a great deal of material but it comes across as quite repetitive. There are some somewhat wild and unbalanced statements at some points, particularly re hunting. In some sections (e.g. 3.3.1) it appears non-consumptive use is	Thank you for this comment. This was improved in the Second Order Draft.
9	Cooney, Rosie	3	0	0	0	0	Further, the chapter to me appears way too long. 30 pages should be fully adequate to introduce and discuss concepts of SU for the purposes of the assessment, I would have thought.	Thank you for this comment. This was improved in the Second Order Draft.
10	Guerrero Ortiz, Sol	3	0	0	0	0	Emphasize more the importance of wildlife in medicine. The World Health Organization (WHO) estimates that up to 80% of the world's population depend mainly on medicine based on plants and/or animals (WHO, 1993). Over the years, indigenous medicine has proven to be an invaluable guide for the creation and procurement of important	Thank you for this comment. This was improved in the Second Order Draft.
11	Jaramillo, Lorena	3	0	0	0	0	Some interesting sources of information to consider on BioTrade, including those related to sustainable use and the trade of biodiversity-based products and services: •Trade and Biodiversity: The BioTrade Experiences in Latin America. http://www.biobio.org/ResourcesPublications/UNCTAD_DITC_TED_20	Thanks for this suggested change. We have included it in section 3.2 of the revised version.
12	Kenward, Robert	3	0	0	0	0	Compared to 3.3.1, 3.3.2-3 are an informative breath of fresh air. If this section is needed at all, it should use Table 3.7 to identify taxa by geographic area here, perhaps also indicating (e.g. with asterisks) the taxa/regions in which sustainability issues occur. However, summary at 1397-1401 and figure 3.13 are excellent as they stand.	Thank you for this comment. This was improved in the Second Order Draft.

13	Minter, David	3	0	0			Fungi. There is no mention of truffles from other parts of the world, particularly China and India. These are extensively collected and sold, often under counterfeit, in European markets. I believe their international trade is poorly regulated if at all.	Thank you for this comment. This was taken into account when developing the Second Order Draft.
14	Minter, David	3	0	0			Fungi. There is no mention of trade in morels. These are collected in non-European countries, including Chile, China, India, Nepal, Pakistan and Turkey, and sold in European and, possibly, other markets. I believe their international trade is poorly regulated if at all. As they often appear after forest fires, there are examples of arson resulting in destruction of forest	Thank you for this comment. This was improved in the Second Order Draft.
15	Minter, David	3	0	0			Fungi. There is no mention of collection and use of Cyttaria species. These are the "golf-ball fungi" found only in association with southern beech (Nothofagus spp.) in Argentina, Australia, Chile and New Zealand. In Australia and New Zealand use is small, but in Argentina and Chile it is extensive. Fruitbodies are collected often in large numbers for personal	Thank you for your comment. We have given adequate attention while developing Second Order Draft to the extent possible.
16	Minter, David	3	0	0			Fungi. There is no mention of collection of ectomycorrhizal fungi in Miombo woodland. Miombo is a huge swathe of African woodland from at least Benin in the west (and probably beyond) to Tanzania in the east, and down to northern South Africa in the south. All of this woodland is only there because the ectomycorrhizal fungal associates of the trees	Thank you for your comment. We have given adequate attention while developing Second Order Draft to the extent possible.
17	Minter, David	3	0	0			Fungi. There is no mention of collection of termite fungi. Several species of fungi are obligately associated with termites. It's a moot point whether the termites cultivate them or they farm the termites, but in any case their fruitbodies are large (they include the world's largest mushroom) and conspituous. They are all edible and are collected for food and to	Thank you for your comment. We now mention Termitomyces spp. both in the section on edible fungi and medicinal fungi.
18	Minter, David	3	0	0			Fungi. There is no mention of "blackfellows' bread" (Laccocephalum mylittae). Its use is probably now more historical, but it provides an example of indigenous use of wild fungi for food in Australia.	Thank you for your comment. We have given adequate attention while developing Second Order Draft to the extent possible.
19	Minter, David	3	0	0			Fungi. Several uses other than for food seem to have been overlooked. Various lichens, mushrooms and toadstools are used to produce dyes to colour fabrics. Lichen is used to produce litmus paper. Some fungi, particularly lichens, are used in production of ornaments and other artefacts. Some bracket fungi are used as tinder.	Thank you for your comment. We have given adequate attention while developing Second Order Draft to the extent possible. Fungi are now mentioned in the Handicrafts, Natural cloth and dye and ceremony and cultural expression sections in addition to food and
20	Minter, David	3	0	0			Fungi. There is no mention of ecotourism in a fungal context, but this already exists and is growing. It includes foraging in countries which have been slower to introduce conservation measures against uncontrolled collecting, particularly gastronomic ecotourism. There is also a market in fungal ecotourism to countries where regulation of use of hallucinogenic	Thank you for your comment. We have given adequate attention while developing Second Order Draft to the extent possible. There is a part on use of hallucinogenic plants and mushrooms in the text. Gastronomic tourism is also more explicitly mentioned in the edible fungi
21	Minter, David	3	0	0			Fungi. There is a huge trade in collecting wild mushrooms which are then dried, bottled or canned. For a synopsis of some aspects of the trade in and out of the European Union see https://www.cbi.eu/market-information/processed-fruit-vegetables-edible-nuts/dried-mushrooms/europe/ - none of this seems to be covered by the	Thank you for your comment. Processed mushroom products are dealt with somewhat implicitly in the current version - partially because the statistics available are quite patchy and the trade codes don't really allow for the distinction of cultivated and wild species. It is something
22	Minter, David	3	0	0			Algae. There seems to be little or no mention in the text of use of seaweeds for food. It's extensive - see Wikipedia "Edible seaweed" [https://en.wikipedia.org/wiki/Edible_seaweed]. Some of those seaweeds, being green or red algae, are arguably members of the plant kingdom. Others, the brown algae, are not. Higher taxonomic ranks are in a state	Thank you for this comment. This was improved in section 3.3.2.7.5 in the Second Order Draft.
23	Minter, David	3	0	0			throughout all chapters, references to "flora and fauna" and "fauna and flora" need to be scrutinized. It is not acceptable to use these terms as a shorthand for biodiversity. They tend to perpetuate the Linnaean intellectual straitjacket of treating all life as either animal or plant. If the intention is to refer only to animals and plants, it is better to say "animals	Thank you for this comment. This was improved in the Second Order Draft.
24	Minter, David	3	0	0			Fungi. Bioprospecting. Surveying natural ecosystems for economically valuable biotic products. For fungi, such products might include novel edible fungi, valuable enzymes for biotechnology companies, metabolites for pharmaceutical investigation, or new biological control agents. The extent to which the provisions of the Convention on Biological Diversity	Thank you for your comment. This is an interesting potential area of future harvesting, especially given the rapidly developing technologies for identifying new fungal species and extracting them from the environment. However, it seems highly unlikely that it will lead to
25	Pilling, Dafydd	3	0	0	0	0	(General comment on Chapter 3 from Julie Bélanger and Dafydd Pilling.) We note that much of the chapter appears to be a very preliminary draft and that some of the text seems to indicate that further work is planned on the analytical framework. Given that this implies that there is likely to	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
26	Rivera Téllez, Emmanuel	3	0	0	0	0	The structure and classification of uses is not consistent between the chapters. In Chapter 3, up to 13 different classifications of use are presented (sections 3.2.1, 3.2.2, 3.3.2 and 3.3.3) which may be contained in fewer categories (ie 3.3.2.2 on extractive practices and 3.2.1.1, 3.2.1.2 and 3.2.1.3). A general classification diagram to guide in	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.

27	Sousa Pinto, Isabel	3	0	0	0	0	Some sections of this chapter base themselves in very old literature - more than 20 years old - specific comments in some of these places. So there are phrases that start with Today and then the reference is 2004!	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
28	TALEB Mohammed Sghir	3	0	0	0	0	There is a link between the loss of wild species and ILK. Indeed, the loss of wild species causes the loss of ILK,	Thank you for this comment. This was improved in the Second Order Draft.
29	TALEB Mohammed Sghir	3	0	0	0	0	Lack of a sub section in section 3 on the trends of wild plants. The overuse of wild plants contributes to the decline (1) in biodiversity (2) of indigenous and local knowledge (3) of the contribution of nature to the population and therefore affects human wellbeing.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
30	TALEB Mohammed Sghir	3	0	0	0	0	Lack of conclusion	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
31	Bates, Peter (TSU for ILK on behalf of the ILK Dialogue in Montreal)	3	0	0	0	0	IPLC live in highly biodiversity rich environments and territories, and use wild species, which represent the essence of their cultures and identities, and are in the center of their livelihood and economic/cultural/social practices (FOD Chap3, Section 3.3). In many narratives, IPLC members described very vividly how, under usual "undisturbed" conditions, their	Thank you for your comment. The new version of the chapter includes many more references to IPLC and ILK.
32	Bates, Peter (TSU for ILK on behalf of the ILK Dialogue in Montreal)	3	0	0	0	0	There is a trend for the decrease in this sustainable use by IPLC, especially due to the erosion of ILK, the interruption of its transmission through generations, economic pressures, biodiversity loss, and rural to urban migration by IPLC youth (FOD Chap3, Section 3.1). There was a number of cases discussed, describing the impacts of this interruption in	Thank you for this reference. This was taken into account in the Second Order Draft.
33	Bates, Peter (TSU for ILK on behalf of the ILK Dialogue in Montreal)	3	0	0	0	0	As the sustainable use of wild species is so important to IPLC, in many different aspects, the trend of its decrease may represent a severe challenge to IPLCs and their traditional ways of living (FOD Chap3, Section 3.3.2.2.1). All accounts presented demonstrate that this trend disrupts the IPLC ways of life (including spiritual practices and	Thank you for this reference. This was taken into account in the Second Order Draft.
34	Bates, Peter (TSU for ILK on behalf of the ILK Dialogue in Montreal)	3	0	0	0	0	But, under another perspective, there should also be a more positive point in the narratives on IPLC. There are some cases where they are struggling against all these difficult conditions, but they are using their customary laws and their ILK to restore traditional habits, to restore disturbed environments, to recover wild species populations, and to	Thank you for this reference. This was taken into account in the Second Order Draft.
35	Germany	3	0	0	0	0	According to the scoping document, ch 3 shall also provide insights on "what levels of use (if any) could be sustainable" and "assess the implications of the use of wild species with regard to NCPs and to a good quality of life". These aspects seem to be missing so far.	Thank you for this reference. This was taken into account in the Second Order Draft.
36	Guerrero Ortiz, Sol	3	0	0	0	0	Mention the example of sustainable use from Ostional, Costa Rica: The Ostional Wildlife Refuge was established in 1983, to protect nesting marine turtles, particularly olive ridleys (Lepidochelys olivacea). In the refuge, an 800 m stretch of beach acts as an olive ridley arribada beach. Arribada is the Spanish word for 'arrival' and during arribadas olive	Thank you for this suggestion. However particular management tools and measures are out of scope of our chapter
37	IPSI Secretariat, United Nations University (UNU-IAS)	3	0	0	0	0	General: There are multiple places holders in the text for additional case studies. The database of Satoyama case studies at https://satoyama-initiative.org/case_study/ provides many rich examples of the uses and issues indicated including the three main cases illustrated	Thank you for this suggestion. We have coordinated our choice of case studies with other chapters.
38	Jungwiwattanaporn, Megan	3	0	0	0	0	Overall there should be greater emphasis on marine fisheries, particularly large scale commercial fisheries. The report references a few statistics (i.e. FAO), but overall focuses on inland small scale fisheries. There should be some mention of the effect high seas fishing (in areas beyond national jurisdiction) has on fish populations overall (i.e. tuna). There	Thank you for your comment. Marine fisheries are addressed extensively in the SOD.
39	Minter, David	3	0	0	0	0	Protista. There are examples, not many I grant, of Protista being used as food and/or by shamans. The myxomycete Enteridium lycoperdon (vernacular name "caca de luna") is an example from at least Mexico and Venezuela.	Thank you for your comment. This is a very interesting example, but for the moment we have decided to focus on macroorganisms since the whole concept of sustainable use becomes difficult and very complex to grapple with when considering microorganisms. That's
40	Minter, David	3	0	0	0	0	Protista. Some myxomycetes (Protista) accumulate heavy metals and may have a role in bioremediation and bioprospecting.	Thank you for your comment. While this is an interesting phenomenon, it is outside the scope of this project because there is no indication of the need for sustained harvesting of protista to maintain this practice. It either occurs naturally (if a toxin is released into the

41	Molnár, Zsolt	3	0	0	0	0	During the preparation of the Global Assessment we started to build a database on indicators of nature developed and used by Indigenous Peoples and local communities. The database contains >1300 indicators from ca. 250 publications. If useful we can help with a specific summary on how trends of wild species populations are perceived locally by IPLC	Thank you for this comment. This was improved in the Second Order Draft.
42	TALEB Mohammed Sghir	3	0	0	0	0	It's important to add a section or sub section about Acces and Benefit Sharing (ABS) because it contributes strongly to sustainable use of wild species.	Thank you for the comments. Something about Nagoya protocol/ access and benefit sharing (ABS) of genetic resources may fit for CH4, but is outside the scope of Chapter 3.
43	Zisenis, Marcus	3	0	0	0	0	Chapter 3 has much potential and need to reduce the 152 pages by descriptive parts in favour of analysis, discussion and conclusions.	Thank you for your comment. The positive feedback is greatly appreciated.
44	Lafaye de Micheaux Flore	3	0	0	0	0	It would be valuable to add here a sub-section and some graphics here presenting the data on threats from harvest of wild species from the IUCN Red List, further to Maxwell et al. (2016) Nature and Brooks et al. (2016) Nature Sustainability.	Thanks for this suggested change. We have included it in the new version(section 3.2)
45	Minter, David	3	0	0			Sean I. Maxwell, Richard A. Fuller, Thomas M. Brooks, and James E. M. Fungi. Biodegradation. A term which describes breakdown of materials in a manner beneficial to man, e.g. the removal of and/or use of wastes. It has been defined as 'the harnessing, by man, of the decay abilities of organisms to render a waste material more useful or acceptable', and as such covers use of fungi and other organisms (mainly bacteria) in solid or	Thank you for your comment. While this is an interesting and useful use of fungi, it is not a case of direct use with sustained harvesting of organisms from the wild and is therefore outside the scope of this assessment.
46	Minter, David	3	0	0			Fungi. Bioindication. The use of organisms (bioindicators) expressing particular symptoms or responses to indicate changes in some environmental influence; various fungi, including leaf-inhabiting, mycorrhizal and lichen-forming species, are used as bioindicators of acid rain, air pollution, ammonium eutrophication, dating surfaces, ecological	Thank you for your comment. While this is an interesting and useful use of fungi, it is not a case of direct use with sustained harvesting of organisms from the wild and is therefore outside the scope of this assessment.
47	Minter, David	3	0	0			Fungi. Biological control. The use of organisms (agents) to maintain another organism (pest) at a level at which it is no longer a problem. Fungal pathogens, parasites and antagonists are in use to control a range of agricultural pests, including arthropods, nematodes, weeds and crop diseases; although rarely openly discussed, they have also been	Thank you for your comment. While this is an interesting and useful use of fungi, it is not a case of direct use with sustained harvesting of organisms from the wild and is therefore outside the scope of this assessment.
48	Minter, David	3	0	0			Fungi. Bioremediation. The use of fungi and other organisms to remove, reduce or ameliorate pollution or potentially polluting materials from the environment. This may be brought about by adding suitable nutrients or selected strains or mixtures of organisms to the substratum; they may be naturally occurring or genetically manipulated. There is an extensive	Thank you for your comment. While this is an interesting and useful use of fungi, it is not a case of direct use with sustained harvesting of organisms from the wild and is therefore outside the scope of this assessment.
49	Minter, David	3	0	0			Fungi. Biotransformation. Some fungi can modify organic compounds to produce industrially, medically or environmentally important products. These are usually enzymatic reactions where the substrate may be metabolized or co-metabolized. The most useful reactions are oxidations, reductions, hydrolysis, condensation, isomerisation, formation of new C-C	Thank you for your comment. While this is an interesting and useful use of fungi, it is not a case of direct use with sustained harvesting of organisms from the wild and is therefore outside the scope of this assessment.
50	Minter, David	3	0	0			Fungi. Spalted wood & Tunbridge Ware. Certain decay fungi produce dark zone lines in wood due to interactions of different fungal colonies, and paler, darker or otherwise differently coloured areas marked off by those zone lines. Such wood eventually becomes brittle, short-grained, and easily breaking; if harvested before decay is too advanced, it is	Thank you for your comment. While this is an interesting and useful use of fungi, it is not a case of direct use with sustained harvesting of organisms from the wild and is therefore outside the scope of this assessment.
51	Minter, David	3	0	0			Taking into account the previous point about distinction between direct use of wild species and use of ecosystem services, here are some examples of grey areas involving fungi in the following comments	Thank you for this comment.
52	Windsor, Fredric	3	1	0	1	0	The review, especially within this chapter, very nicely sits within the framework of network ecology, with socio-ecological system theory governing the temporal and spatial aspects of species use. It would be prudent, at the very least, to mention the fact that human decision making networks interact with ecological networks in time and space to	Thank you for this comment. This was improved in the Second Order Draft.
53	Özden Görücü	3	1	1	98	2499	In all the thematic assessments of the SU of the WS entirely, it can not be seen in the text any legislations, regulations, or lawful considerations according to the five IPBES regions. So, this point should be considered if possible.	Thank you for your comment. Chapter 6 deals with policy assessment in this assessment and Chapter 2 is addressing regional variation in legislation and regulations.
54	Germany	3	1	4	10	294	The texts in these sub-chapters are still very general and unspecific. In the SOD, objectives and main statements for policy makers should be more clearly worked out.	Thank you for your comment. We have thoroughly revised the section.

55	Demissew Sebsebe	3	1	4			Chapter 3 focusses on the status of and trends in the use of wild species worldwide and its implications for wild species, the environment and people. What is the reason the part highlighted in red is left out from the executive summary? Which part of the executive summary addresses the highlighted part?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
56	Adeline Lerambert	3	1	5	1	5	Data on legal trade in CITES-listed species is also aggregated at a worldwide scale, through the CITES Trade Database (https://trade.cites.org/)	Thank you for your comment. We will also use legal trade in CITES-listed species data.
57	Adeline Lerambert	3	1	8	1	8	The reference to 'what species are used sustainably' suggests that the analysis is restricted to those species for which the sustainability of use has already been established, when this surely isn't the case. Suggest delete the word 'sustainably'	Thank you for your comment. The word sustainably is being used in ways consistent with what is established in Chapter 1 and 2 of the assessment.
58	Demissew Sebsebe	3	1	11			scientific and, indigenous and local knowledges	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
59	Demissew Sebsebe	3	1	16			organismal groups, invertebrates vs. birds, for example. Please consider examples shown in Table 3.2.	Thank you for this comment. This was improved in the Second Order Draft.
60	Oldfield, Thomasina	3	1	20	1	20	in other chapters "timber harvesting" is referred to as logging. Some overall consistency checking at the end will be necessary.	Thank you for your comment. We have thoroughly revised the section and consistently used "Timber harvesting".
61	Damayanti, Ellyn	3	1	25	1	25	Unnecessary repetition: (section 3.4) to be deleted	Thank you for your comment. We have included it in the new version.
62	Adeline Lerambert	3	1	26	1	27	Again the reference to 'sustainable' use suggests it won't affect species at a population/habitat level, and the sustainability of a particular form of use cannot be considered in isolation from other uses or impacts on a population, so this line is again misleading. Suggest delete the word 'sustainable'	Thank you for your comment. The word sustainably is being used in ways consistent with what is established in Chapter 1 and 2 of the assessment.
63	Adeline Lerambert	3	2	51	2	52	Human beings also benefit from nature economically	Thank you for your comment. We have included it in the new version.
64	TALEB Mohammed Sghir	3	2	51	2	51	Add food and feed before ecologically	Thank you for this comment. This was corrected in the Second Order Draft.
65	Meixiang, Gao	3	2	55	2	55	Please remove the space between "Conside" and "ring".	Thank you for your comment. The positive feedback is greatly appreciated.
66	Damayanti, Ellyn	3	2	57	2	57	Mistyping the first word of the sentence?	Thank you for your comment. The positive feedback is greatly appreciated.
67	Demissew Sebsebe	3	2	57	58		Ts will be a key part of chapter 3, but is only in its early stages at 57 this time is unclear.	Thank you for making this point. It does not seem to require changes to the text.
68	Meixiang, Gao	3	2	57	2	57	What is the meaning of Ts? I do not see the Ts in the list of Acronyms. If it is a acronym, I suggest give the full name of "Ts" here.	Thanks for this suggested change of wording. It is an improvement and we have adopted it.

69	Demissew Sebsebe	3	3	60			What does the statement "The natural world is the basis for all humanity" mean? The basis for its existence or what?	Thanks for your comment. We have changed the wording in the new version.
70	Cooney, Rosie	3	3	60	5	142	I haven't had time to review Ch 1, but I would have thought that some of the material here is of the sort that would be better presented in the introduction to the whole assessment e.g. the material on ILK, definitions e.g. of subsistence use etc	Thank you for this comment. This was improved in the Second Order Draft.
71	Sousa Pinto, Isabel	3	3	61	3	61	Please use Animals, fungi, plants and algae. There are data for e.g. brown seaweeds that are harvested - so wild	Thank you for this comment. This was improved in the Second Order Draft.
72	Fergusson, Richard	3	3	67	3	68	Use of "extractive" vs "non-extractive" is not synonymous with sustainability. It is possible to be "non-extractive" but non-sustainable in the bigger picture - much of "ecotourism" RESPONSIBLE RESOURCE USE overarches this - considers the bigger picture	Thank you for your comment. Please refer to chapter 1 and the glossary for the definitions of these terms.
73	Demissew Sebsebe	3	3	71	72		Check if " the effects of use on wild species and the environment 71 at different spatial scales are treated in the main Section of 3.4.	Thank you for your comment. This text has been deleted based on the revisions to section 3.4.
74	Adeline Lerambert	3	3	79	3	79	Change 'traditional' to 'conventional'	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
75	Demissew Sebsebe	3	3	80	81		Ichii, Molnár, Obura, Purvis, & Willis, 2019 need to be changed to Ichii et al., 2019	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
76	Meixiang, Gao	3	3	81	3	81	Please remove the space between "se" and "parated".	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
77	Demissew Sebsebe	3	3	85	86		The statement "ILK is increasingly challenging to pass on because the environments in which indigenous and local communities live are threatened" is unclear and needs to be revised.	Thank you for this comment. This was improved in the Second Order Draft.
78	Demissew Sebsebe	3	3	90			albeit it at a very local scale (Ichii et al., 2019) something missing	Thank you for this comment. This was improved in the Second Order Draft.
79	White, Michael	3	3	94	3	97	Correct	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
80	White, Michael	3	3	94	3	97	Correct	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
81	Windsor, Fredric	3	3	97	4	98	Does there need to be specific weighting given to examples where a combination of information sources is available - i.e. can the examples with a greater number of sources of information inform those with only a handful? There might be systematic differences in the characteristics of the information derived from different types of ILK	Thank you for your comment. If understood correctly, this comment relates directly to the confidence statement approach used by IPBES. Thus weighting of sources through this recognized approach will be included in the SOD.
82	Morgan, David (on behalf of CITES)	3	4	101	4	110	In this section the CITES Convention as the major body dealing for over 40 years with sustainable use of Wildlife should be specifically mentioned and these data should also be used and evaluated.	Thank you for this comment. This was improved in the Second Order Draft.

83	Kathryn Phillips (on behalf of UNEP - WCMC)	3	4	103	4	104	Re formal and informal trade - does informal trade include illegal transactions albeit undocumented - too?	Thanks for your comment. We have changed the wording in the new version.
84	Stiles, Daniel	3	4	104			I believe this is the first mention in this report of illegal markets, otherwise known as illegal wildlife trade (IWT). IWT has become a significant topic in its own right, with a vast literature, and it relates directly to sustainable use. I hope it receives appropriate attention in this assessment.	Thank you for your comment. Trade addressed throughout the assessment and especially in Chapter 3, 4, and 6.
85	Sousa Pinto, Isabel	3	4	107	4		discussions on sea tenure could also be done here - how different fisheries management practices affects the access to wild speices.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
86	Demissew Sebsebe	3	4	108			Section 2 will also examine	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
87	Sousa Pinto, Isabel	3	4	111			include algae even if then not treating this group of species in a ver detailed way - but good oportunity here to include another group of organism and to assess what is their use and also access differs in different regions. I may be able to help if needed.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
88	Fisher, Sue	3	4	115	4	115	Please include "non-use to maximise ecological services" as an example of sustainble non-extractive use	Thank you for your comment. This type of use is outside the scope of the assessment, as determined by the definition of non-extractive practices laid out in chapter 1
89	Sousa Pinto, Isabel	3	4	120			all this can be done with algae too (at least with macroalgae)	Thank you for your comment. This is unclear and is thus disregarded.
90	Adeline Lerambert	3	4	123	4	124	Include 'economic gain' or 'financial gain' among use categories	Thanks for this comment. The revised version we now include a economic use
91	Oldfield, Thomasina	3	4	123	4	124	IUCN SIS uses an expanded list.	Thank you for your comment. The list of uses is established in Chapter 1 and outside the scope of this chapter.
92	Kathryn Phillips (on behalf of UNEP - WCMC)	3	4	125	4	125	"surprises" ?	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
93	Meixiang, Gao	3	5	136	5	136	Please remove the space between "conside" and "ration".	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
94	Sousa Pinto, Isabel	3	5	139			why however?	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
95	Meixiang, Gao	3	5	140	5	140	Please remove the space between "excl" and "ude".	Thanks for this suggested change of wording. It is an improvement and we have adopted it.
96	Jia, Gensuo	3	6	144	10	294	Patterns of the use of wild species vary over time and across space, based on relationships that may go back thousands of years. But this section only highlight patterns of the use of wild species from the Africa and the Americas and ignore other regions. Please add: examples from the Asia, the Pacific and Europe.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.

97	TALEB Mohammed Sghir	3	6	144	6	144	Delete for: Context and scale of use	Thank you for your comment. This was deleted
98	Demissew Sebsebe	3	6	151	152		Who are tree communities? How would you recognize them?	Thanks for this comment. We refer to the tree communities listed by the Levis paper (cited as reference). However following this comment this sentence was rewritten in the Second Order Draft.
99	Cooney, Rosie	3	6	156	6	158	Is it possible to identify a community for which this is not so? There might be isolated examples, but I would have thought almost all human societies rely on use of wild species to greater or less extents	Thanks you for your comment. This parargraph was rewrittem accordingly.
100	Germany	3	6	156	6	158	Please provide a reference to that estimation. Figure 3.2.1 is missing.	Thanks for this comment. Reference is now given and Figure 3.2.1 is now included.
101	Özden Görücü	3	6	156	6	158	There must be reference for the para and the figure	Thank you for this reference. This was taken into account in the Second Order Draft.
102	Damayanti, Eilyn	3	6	158	6	158	Figure 3.2.1 not exist? Will be provided in the next draft? Or it is an issue of numbering?	Thank you very much for your comment. Yes there was a problem in numbering whih is now corrected.
103	Demissew Sebsebe	3	6	161			Be consistent in the use of et al. or et al throughout the chapter	Thanks for this comment. This was taken into account in the Second Order Draft.
104	Newing, Helen	3	6	167	7	210	This section is superficial compared to some recent reviews (see for example Coad et al's review (https://www.cifor.org/library/7046/)).	Thank you for this suggestion. Coad et al review was included in the Second Order Draft.
105	Germany	3	6	168	7	189	Please explain why the section on economic context includes/ starts with deliberations on valuation studies and economics of ecosystem services. This is a specific method of valuation and not necessarily part of the economic context.	Thanks for this comment. This section was rewritten accordingly.
106	Özden Görücü	3	6	168	7	183	Under this title to be mentioned on Development of improved valuation methods Pro and Con approach,internalization of the externalities,option value,existence and bequest value	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
107	Zhiyuan Hou	3	6	175	6	176	There should be a definition of "potential 176 harvest "	Thank you for this comment. This was improved in the Second Order Draft.
108	Damayanti, Eilyn	3	7	185	7	186	For example, Godoy et al. (Godoy, Lubowski et al. 1993) found net values of nontimber forest 185 products (NTFPs) in the Amazon ranging from US\$ 1 to US\$ 420 ha-1year-1 for rubber and charcoal. --> US\$ 1 to US\$ 420 ha-1year-1 is for the 185 species of NTFP or for rubber and charcoal?	Thanks for this comment. This section was rewritten accordingly.
109	Demissew Sebsebe	3	7	185			Please use one of the following "For example, Godoy et al. (Godoy, Lubowski et al. 1993)". Need consistency	Thank you for this comment. This is now corrected
110	Damayanti, Eilyn	3	7	188	7	188	Table 3.2.1 not exist? Will be provided in the next draft? Or it is an issue of numbering?	Thank you for this comment. Figure 3.2.1 is now included.

111	Damayanti, Ellyn	3	7	188	7	188	(not sure where/what this is at this point) --> what is this mean?	Thank you for this comment. This was corrected in the Second Order Draft.
112	Stiles, Daniel	3	7	189			Is this US \$ 9 to 17 ha-1year-1 or what?	Thank for this comment. Yes it is per ha per year. This was changed in the Second Order Draft.
113	Oldfield, Thomasina	3	7	190	7	210	section 3.2.1.1. is very weak The is a huge amount on the important of wild species in food security and vital food supplements. - see CIFOR and IUCN studies.	Thank you for this comment. This was improved in the Second Order Draft.
114	Bélanger, Julie	3	7	192	7	194	Many other references would apply, for example the 14 assessments referenced in chapter 1.	Thanks for this comment. This section was rewritten accordingly.
115	Cooney, Rosie	3	7	192	7	210	The various publications of IUCN from the "Landscapes and Livelihoods" initiative, published around 2012, and the Poverty Environment Network analyses, would be good to cite there - they found roughly 25-30% of household income in tropical forest countries was from forest products - a % almost as high as agriculture - worth citing here. See Wunder, S.	Thank you very much for this comment. These references were included in the Second Order Draft.
116	Cooney, Rosie	3	7	192	7	192	But by this definition, meat hunting by American rural hunters would be considered subsistence rather than recreational. Is this intended? I have tended to define subsistence as including the added element "as part of basic livelihood strategies", as this would exclude first-world hunters, who generally have other options.	Thank you for this valuable comment. This section was rewritten.
117	Demissew Sebsebe	3	7	193	194		Please check the date "Asia and the Pacific/IPBES, 193 n.d"	Thank you for this reference. This was taken into account in the Second Order Draft.
118	Kathryn Phillips (on behalf of UNEP - WCMC)	3	7	198	7	198	Example of species that is consumed locally in the Americas would be Yellow footed tortoise. See review of the species from several countries within following document: https://cites.org/sites/default/files/eng/com/ac/29/E-AC29-13-02-A1.pdf	Thank you for this comment. This was improved in the Second Order Draft.
119	Sousa Pinto, Isabel	3	7	199	7	204	also seaweeds have very important traditional uses including for food and other uses. Use as food continues til today - with other uses as fertilizers, feed for animals also traditional. Today new uses also being developed...	Thank you for this reference. This was taken into account in the Second Order Draft.
120	Demissew Sebsebe	3	7	200			Non-timber	Thank you for this reference. This was taken into account in the Second Order Draft.
121	Bélanger, Julie	3	7	202	7	202	Suggest to add 'natural or managed forest habitats'.	Thanks for this comment. This section was rewritten accordingly.
122	Jia, Gensuo	3	7	205	7	210	We would like to suggest following points for this part:1. Please clarify what is the "primary health care"? 2. Please clarify the reference of "80%", because the report seems not to be found. 3. To ensure consistency between this part and this section.	Thank you for this reference. This was taken into account in the Second Order Draft.
123	Oldfield, Thomasina	3	7	206	7	208	The WHO reference is very old and was a guess at the time so at least it should be put as a past estimate. This is the kind of statistic that it would be good to see updated through an IPBES report and this study.	Thanks for this suggested change. We have included it in the new version.
124	Pilling, Dafydd	3	7	206	7	208	The 80 percent figure seems to be one of those statistics that has been quoted and requoted for decades. It apparently dates from 1983 or earlier and doubts have been raised as to its continuing validity (see for example Oyebodye O, Kandala NB, Chilton PJ, Lilford PJ. Use of traditional medicine in middle-income countries: a WHO-SAGE study.	Thanks for this suggested change. We have included it in the new version.

125	Sousa Pinto, Isabel	3	7	207	7	208	The reference is very old for a statement that starts - "in the modern era" that we assume is now! And the reference is 1993!	Thank you for this comment. This was improved in the Second Order Draft.
126	Kathryn Phillips (on behalf of UNEP - WCMC)	3	7	208	7	208	Pretty old IUCN reference re % of people relying on traditional meds as primary health care - likely to have changed?	Thanks for this suggested change. We have included it in the new version.
127	Mulà, Anna	3	7	210	7	211	There should be included references to the negative impacts of TCM. See https://www.nationalgeographic.com/animals/reference/traditional-chinese-medicine/ Growing demand for TCM products has had devastating consequences for many species of wildlife. In some cases, poaching animals to use their body parts for traditional medicine is the	Thank you for this comment. This was corrected in the Second Order Draft.
128	TALEB Mohammed Sghir	3	7	210	7	211	Add paragraph: About 35,000 plant species have medicinal value, but only 5,000 have been studied. In Southeast Asia, healers use 6,500 different plants to treat malaria, stomach ulcers, syphilis and other health problems. China alone produces more than 40,000 different traditional herbal medicines.	Thank you for this comment. This was improved in the Second Order Draft.
129	Bélanger, Julie	3	7	211	8	234	The text presented under 3.2.1.2 Trade: formal market does not really explain what the formal markets of wild species are, what species/groups are targeted, etc. In Chapter 1, a very short but useful description is provided, making reference to the existence of records and statistics. As an introduction to the context for this chapter assessing status and	Thanks for this comment. This section was rewritten accordingly.
130	Jaramillo, Lorena	3	7	211	8	234	UNCTAD Bio Trade Initiative can contribute with concrete information and cases regarding the positive contribution of trade. Additionally, key issues to also consider in the analysis are suggested, such as traceability, market access requirements (e.g. non tariff barriers), consumers demand, costing and pricing and an enabling policy environment which	Thank you for sharing this reports. They were very useful and are now included in the SOD
131	Adeline Lerambert	3	7	213	7	215	The wording does not give a sense to the massive scale of this increased harvesting, which should be emphasised.	Thanks for this comment. This section was rewritten accordingly.
132	Kathryn Phillips (on behalf of UNEP - WCMC)	3	7	213	7	215	Suggests that collection of all animals is by hunting (i.e. killing) rather than collection - many species are collected as live animals for pets (wild birds, reptiles).	Thank you for this comment. This was improved in the Second Order Draft.
133	Kathryn Phillips (on behalf of UNEP - WCMC)	3	8	213	8	231	One key ref used a lot (RAO 2010) others available? Seems no description of international trade of species and any mention of legal regulated trade. Only discusses formal trade no distinguishing between national/international. Lines 227 - 231 - relevant here? How are they related to trade? Definition of formal/informal trade markets an issue re	Thank for your comment. Other references were included.
134	Minter, David	3	7	214	7	214	change "plants and fungi" to "fungi and plants"	Thank you for this comment. This was corrected in the Second Order Draft.
135	Minter, David	3	7	214	7	214	Am I missing something? I thought fish were animals!	Thank you for this comment. This was corrected in the Second Order Draft.
136	Adeline Lerambert	3	7	216	7	218	In many cases a significant proportion of the income accrued through the commercialisation of wild meat will benefit traders and traffickers - this should be acknowledged, otherwise it looks as if the 'valuable income' is limited to rural populations	Thank you for your comment. More precised information on the commercialization of wild meat are in section 3.3.3. on terrestrial animal harvesting.
137	Kathryn Phillips (on behalf of UNEP - WCMC)	3	7	217	7	218	Refs required to support facts of wild-meat and protein/income dependencies.	Thank you for this comment. This was improved in the Second Order Draft.
138	Demissew Sebsebe	3	7	219	221		Be consistent in refering to authors in the text - either Rao et al. 2010 (without comma); Nooren and Claridge, 2001; Bennett et al., 2002 (with comma);	Thank you for this comment. This was corrected in the Second Order Draft.

139	Özden Görücü	3	8	219	8	231	As an example practices from Eastern Europe(EE) region additional text could be placed here	Thanks for this suggested change. We have included it in the new version.
140	Adeline Lerambert	3	8	220	8	221	The reference to 'several' wildlife species severely underplays the significance of overexploitation as a driver of species decline. Reference the IPBES Report on Biodiversity and Ecosystem Services from May 2019, which identifies direct exploitation of organisms as the second most significant direct driver of the huge declines described in the report	Thanks for this suggested change. We have included it in the new version.
141	Erb, John	3	8	220	8	227	Similar to my above comment, these statements may be valid at a global scale, but it masks the geographic variability that exists, and also focuses on proximate explanations (overexploitation, trade) without being more explicit on the ultimate problem. The problem is not use, demand, or trade per se, but lack of proper harvest/population monitoring.	Thank you for this comment. This was improved in the Second Order Draft.
142	Skern-Mauritzen, Mette	3	8	220	8	222	Please refer to more recent literature on overexploitation, including FAO reports on fisheries	Thank you for this comment. This was improved in the Second Order Draft.
143	Bélanger, Julie	3	8	220	8	231	The first lines of the paragraph address overexploitation of wildlife for trade as a driver of change for wild species, and describes in general terms the impact on some species (decline, extinction). This should probably go under another section (somewhere under 3.3 examining wild species use?).	Thank you for this comment. This was improved in the Second Order Draft.
144	Cooney, Rosie	3	8	220	8	231	This para mixes up legal and illegal hunting, and moves from examination of one driver (overhunting) to discussing the LPI results, which are driven by a range of factors - with habitat loss a more serious driver than overharvest for terrestrial taxa	Thank for your comment. This paragraph was rewritten
145	Damayanti, Ellyn	3	8	220	8	231	Can illegal hunting for trade included in formal market? If yes, maybe worth to add more text from references (hopefully available), e.g. what is the scale of illegal hunting vs. sustainable hunting in formal market?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
146	Butchart, Stuart	3	8	223			Here, the references to the LPI and IUCN Red List are rather general and not linked to the issue of sustainable use. I would (a) report the stats from the Red List on the proportion of species in comprehensively assessed groups (mammals, birds, amphibians, corals, cycads) that are coded as (i) used in the Utilisation classification scheme and (ii)	Thanks for this valuable comment. Red List Indicators were revised
147	Meera Anna Oommen	3	8	227	8	231	These lines state that there has been a decline in global vertebrate abundance by 58% and decrease in 32% of species on the Red List. When read along with the previous paragraph, it gives the mistaken impression that it is being driven primarily by wildlife overexploitation and commercial trade. Is that the intent of these two sentences? I looked for	Thank you for this comment. This was improved in the Second Order Draft.
148	Oldfield, Thomasina	3	8	227	8	231	LPI and RL look at all the threats whereas the implication here is that use/trade always is a threat.	Thank you for this comment. This was improved in the Second Order Draft.
149	Demissew Sebsebe	3	8	227	231		Is the reduction in the vertebrate percentage linked with the use? If so say so.	Thank you for this comment. This was improved in the Second Order Draft.
150	Germany	3	8	227	8	231	To avoid misunderstanding, it should be stated that illegal hunting/ poaching is not the sole reason for the decrease of vertebrate species as the context might suggest.	Thank you for this comment. This was improved in the Second Order Draft.
151	Kathryn Phillips (on behalf of UNEP - WCMC)	3	8	227	8	231	Needs to be clear if the figures for the LPI and IUCN Red List relate to species that are used or not utilised? Some evidence suggests that used species are faring better than non-used species -see https://www.cambridge.org/core/journals/oryx/article/use-it-or-lose-it-measuring-trends-in-wild-species-subject-to-substantial-	Thank you for this comment. This was improved in the Second Order Draft.
152	Kenward, Robert	3	8	232	8	233	Why are the widespread, regulated, sustainable and well documented harvests of ungulate and bird game species across the northern hemisphere, which are much larger than those mentioned, not also being included? Why reindeer in Scandinavia, which are more or less domesticated, and not the larger market in hunted Alces alces? The	Thank you for this comment. This was improved in the Second Order Draft.

153	Skern-Mauritzen, Mette	3	8	232	8	233	Regarding examples on sustainable trade: these should also include large-scale harvesting of eg fish (one example could be the North East Atlantic cod stock - the biggest cod stock in the world); in addition to small-scaled harvests. FAO also provide trends of stocks that are fished sustainably	Thank you for this comment. This was improved in the Second Order Draft.
154	Kathryn Phillips (on behalf of UNEP - WCMC)	3	8	232	8	233	Lots of other possible examples of sustainable use and trade: Lama guanicoe from Chile and Argentina, Lynx canadensis from Canada/US, medicinal leech from Turkey, Tupinambis teguixin from Guyana and Suriname, Galanthus woronowii snowdrop from Georgia etc	Thank you for this comment. This was improved in the Second Order Draft.
155	Stiles, Daniel	3	8	232	8	233	There is https://cites.org/sites/default/files/eng/prog/Livelihoods/case_studies/9.%20Tajikistan_ibex%26markhor_long_Aug2.pdf , https://cites.org/sites/default/files/eng/prog/Livelihoods/case_studies/CITE_S_livelihoods_Fact_Sheet_2019_Mexico_Big_Horn_Sheep.pdf and	Thank you for this reference. This was taken into account in the Second Order Draft.
156	White, Harold	3	8	232			This section should include some discussion of the international trade in wild fur. Species harvested in the US and Canada are highly managed and populations are in no way negatively impacted by the trade.	Thank you for this reference. This was taken into account in the Second Order Draft.
157	Finnish national IPBES panel (Oksanen, Elina)	3	8	233	8	233	Reindeers are not hunted in Scandinavia (or Arctic Russia). The reindeers in Scandinavia are semi-domesticated, and herding of these semi-domesticated reindeers is important. Reindeer grazing has a strong impact on Sub-Arctic and Arctic vegetation and biodiversity. References: Kivinen S, Kumpula T. 2014. Detecting land cover disturbances in the	Thank you for this comment. This was improved in the Second Order Draft.
158	Stiles, Daniel	3	8	235	9	266	'Informal trade' would seem an appropriate section to discuss the importance of IWT as it affects unsustainable offtake and what are the factors that cause the illegal offtake and trade (aka trafficking).	Thank you for this comment. This was improved in the Second Order Draft.
159	Adeline Lerambert	3	8	237	8	238	Informal markets do not only involve products traded in 'small' quantities	Thank you for this comment. This was improved in the Second Order Draft.
160	Bélanger, Julie	3	8	237	8	240	These first sentences are very informative and relevant to this subsection. Such type of information could be provided above for trade in formal markets.	Thank you for this comment. This was improved in the Second Order Draft.
161	Damayanti, Ellyn	3	8	237	8	240	First and second sentence in the paragraphs are redundant.	Thank you for this comment. This was improved in the Second Order Draft.
162	TALEB Mohammed Sghir	3	8	239	8	239	It's very important if we can give the percentage of informal markets vs formal market	Thanks for this suggestion. We reviewed literature for providing this estimate.
163	Oldfield, Thomasina	3	8	240	8	243	not all "hunting and gathering" goes into markets (even if these are informal). Much is for "self use" which could be considered "subsistence" even if the people are not reliant on this in any way.	Thank you for this comment. This was improved in the Second Order Draft.
164	Pilling, Dafydd	3	8	240	8	240	Several points regarding the reference to FAO, 2019 (i.e. The State of the World's Biodiversity for Food and Agriculture): (i) it is not clear why the material about recreational use is introduced at this point (i.e. in the discussion of informal markets) - a lot of recreationally harvested material is not going to be marketed at all; (ii) it is unclear from the way this is	Thank you for this comment. This was improved in the Second Order Draft.
165	Adeline Lerambert	3	8	244	8	247	To describe the trade in wild foodstuffs from parts of Africa into Europe as occurring in 'small quantities' is disingenuous. Note Chaber et al. 2010. The Scale of Illegal Meat Importation from Africa to Europe via Paris. Conservation Letters 3(5), 317-321, which estimated a weekly importation of 5 tonnes of bushmeat through Paris CDG airport in hand	Thank you for the suggested reference. This is partly addressed by a reference of Honoré Tabuna's CIFOR report of trade of NTFPs from central Africa to France.
166	Germany	3	8	251	9	266	Another example is the poaching and trading of Abalone in South Africa https://doi.org/10.1006/jmsc.1999.0534	Thanks for suggesting this interesting reference, but this works seems to report an unsustainable fishery and is therefore out of the scope of chapter 3.

167	Fisher, Sue	3	8	253	8	253	Please refer to bycatch of non-target species and habitat degradation as an example of an environmental impact (even if the use of the target species is sustainable)	Thank you for your comment. However, here we mean environmental impacts that affect fisheries, for example large dams, etc. so we reformulated the sentence.
168	Germany	3	9	267	10	294	This sections seems to be in a preliminary state. What is the uptake for the assessment in terms of different spacial and temporal scales? Please provide more references.	Thank you for this comment. This was improved in the Second Order Draft.
169	Windsor, Fredric	3	9	269	9	270	Is it worth highlighting that this is because species distributions are inherently scale dependent, as well as the fact that human activities are scale dependent.	Thank you for this comment. This was improved in the Second Order Draft.
170	Meixiang, Gao	3	9	271	9	271	The "space" and "spatial scale" are different concepts. Should we use spatial scale here?	Thanks for this comment. Diference between spatial scale and space is now detailed
171	Meixiang, Gao	3	9	273	9	277	For spatial scale, there are two different concepts, that is spatial extent and spatial grain. In this report, do we focus on spatial extent? I suggest describe it here.	Thank you for this comment. This was improved in the Second Order Draft.
172	Jun Wang	3	9	276	9	277	More detailed examples at national level are needed to support the view.	Thank you for this comment. This was improved in the Second Order Draft.
173	Kathryn Phillips (on behalf of UNEP - WCMC)	3	9	276	9	277	Sustainability of timber is most often assessed on a concession basis and therefore at a sub-national level, so this statement is not correct for trees that are harvested for timber. This provides a better contrast in any case when compared to global fisheries	Thank you for this comment. This was improved in the Second Order Draft.
174	Meixiang, Gao	3	9	278	9	278	The time and temporal scale are two different concepts. Should we change the time into temporal scale here?	Thank you for this comment. This was improved in the Second Order Draft.
175	Stiles, Daniel	3	10	278	10	294	Another example of time Stiles, D. (1998). The Mikea hunter-gatherers of southwest Madagascar: ecology and socioeconomics. African Study Monographs 19(3): 127-148. https://www.academia.edu/5003241/the_mikea_hunter-gatherers_of_southwest_madagascar_ecology_and_socioeconomics	I 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.
176	Damayanti, Elynn	3	10	284	10	288	Keys in Table 3.1 are not complete (no key for Brazil nut, Acai, and maize?)	Thank you for this comment. This was improved in the Second Order Draft.
177	Oldfield, Thomasina	3	10	284	8	287	Table 3.1 - there are some symbols missing from the key.	Thank you for this comment. This was improved in the Second Order Draft.
178	Meixiang, Gao	3	10	287	10	288	Some symbols are missing in the note of the Table 3.	Thank you for this comment. This was improved in the Second Order Draft.
179	Pilling, Dafydd	3	11	297	3	302	Wild species are also "used" in the sense of being managed to provide various "regulating and supporting ecosystem services", e.g. by encouraging the presence of wild pollinators, biological control agents or useful soil-dwelling organisms, planting/promoting the growth of trees or other wild plants to reduce flood risk, protect against storms, reduce soil	Thank you for your comment. We reformulated the 3.3. section, so now uses are described in detail according to practices. Please note that the assessment should address direct uses only (either extractive or non-extractive), not ecosystem services provided by species.
180	Stiles, Daniel	3	11	297	11	310	This article gives an overview of a wide variety of wild products used in trade in different regions: Stiles, D. (1994). Tribals and Trade: a strategy for cultural and ecological survival. Ambio 23(2):106-111. https://www.academia.edu/5770129/Tribals_and_Trade	I 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.

181	Kathryn Phillips (on behalf of UNEP - WCMC)	3	11	297	11	297	This should be proper information - time immemorial doesn't mean anything	Thank you for this comment. This was improved in the Second Order Draft.
182	Cooney, Rosie	3	11	297	11	310	This introductory information could usefully be set out once, in Ch 1, in a way useful for all chapters and sections, rather than being repeated	Thank you for suggestion. The chapters are meant to also be read individually, therefore it is better for the introductory information to stay.
183	Pilling, Dafydd	3	11	297	11	302	This is more a matter of presentation than content, but the paragraph is slightly confusing in that it appears to present two partly overlapping lists of purposes. Also, presumably "i.e." should be "e.g.". Sport is not the only form of leisure use of wild species.	Thank you for this comment. This was improved in the Second Order Draft.
184	Serge Michel Garcia	3	11	298	11	298	Citing just "timber" is rather short. WE could add "leather" as animal hides have been fundamental since human origin	Thank you for this comment. This was improved in the Second Order Draft.
185	Fokam, Eric	3	11	301	11	301	...for collecting purpose... "and recreation"	Thank you for this reference. This was taken into account in the Second Order Draft.
186	Kathryn Phillips (on behalf of UNEP - WCMC)	3	11	303	11	303	Harvested (not taken). Go though and decide on definitions and stick to them	Thank you for this comment. This was improved in the Second Order Draft.
187	Adeline Lerambert	3	11	305	11	305	Suggest replacing the term 'benefits' with 'purposes'	Thank you for this comment. This was corrected in the Second Order Draft.
188	Kathryn Phillips (on behalf of UNEP - WCMC)	3	11	305	11	305	is often for food - and income.	Thank you for this comment. This was improved in the Second Order Draft.
189	Adeline Lerambert	3	11	308	11	310	This paragraph suggests that 'food and income for millions of people and domesticated animals' are the only uses of fish and shellfish extracted from aquatic ecosystems, when in reality they are utilised for as wide a range of purposes as terrestrial species	Thank you for this comment. This is no longer relevant for the Second Order Draft as it was heavily restructured.
190	Pilling, Dafydd	3	11	308	11	310	The sentences on aquatic ecosystems are quite a lot less informative than those on terrestrial ecosystems (And "They are vital areas for fish and shellfish" seems to be an unnecessary statement of the obvious.)	Thank you for this comment. This is no longer relevant for the Second Order Draft as it was heavily restructured.
191	Kathryn Phillips (on behalf of UNEP - WCMC)	3	11	308	11	310	sentences on aquatic ecosystems don't relate to the rest of the paragraph well	Thank you for this comment. This is no longer relevant for the Second Order Draft as it was heavily restructured.
192	Oldfield, Thomasina	3	11	309	11	310	Some more detiai on FW fish as vital to food security e.g. "the global inland catch reported as 10.3 MT in 2008 was more likely 16.6 MT (CI, 2.3-30.9), which accords with recent independent predictions for rivers and lakes. In human terms, these hidden harvests are equivalent to the total animal protein consumption of 36.9 (CI, 30.8-43.4) million people.	Thanks for indicating these interesting references. We cited now the work by Fluet-Chouinard et al. 2018 and McIntyre et al. 2016 in beggining of the small-scale fisheries section. However, we did not make direct quotes, but rather made our own comments and
193	Pilling, Dafydd	3	11	311	11	312	"... for ease of access, based on interest" is difficult to understand	Thank you for this comment. This was improved in the Second Order Draft.
194	Kathryn Phillips (on behalf of UNEP - WCMC)	3	11	311	11	312	"in several different formats for ease of access, based on interest" I don't understand what this means.	Thank you for this comment. This was improved in the Second Order Draft.

195	Pilling, Dafydd	3	11	315	11	317	The statement "Section 3.3.2 explores practices people engage in to use wild species, in other words what is the purpose of the use of the organism?" reads strangely. Practices and purposes are not the same thing, i.e. in the sense that a given practice (e.g. shooting, trapping, fishing, gathering or whatever of a particular species) could be done for a	Thank you for this comment. This was improved in the Second Order Draft.
196	Kathryn Phillips (on behalf of UNEP - WCMC)	3	11	316	11	317	purpose of the use'? Is this correct - re extractive/non-extractive - shouldn't it be e.g., 'manor in which the resource is harvested/obtained'? Purpose and how being used are very close concepts.	Thank you for your comment. Please see Chapter 1 for more information on the assesemnt organizing structure.
197	Oldfield, Thomasina	3	11	318			See my comment on chapter 1 page 16 line 441 on mortality. The definition of extractive vs non-extractive is not a good use - rather you should use lethal to or removal from the population vs non-lethal to /not removed from the population (but that might involve some extractive use e.g. wool or fruit).	Thank your for your comment. However, the assessment is adopting these terms to distinguish between direct uses that involve removal of the organism or parts of it, with or without mortality (extractive) and indirect use that does not involve removal of organisms (viewing
198	Pilling, Dafydd	3	11	318	11	320	This is also confusing. It is unclear how "how the wild species are being used" is different from "practices" or how "(for food, for medicine, for cultural expression, etc.)" is different from "purposes".	Thank you for this comment. This was improved in the Second Order Draft.
199	Kathryn Phillips (on behalf of UNEP - WCMC)	3	11	319	11	319	for food and Income	Thank you for this comment. This was improved in the Second Order Draft.
200	Pilling, Dafydd	3	11	320	11	322	I can't say I find the justification for the three-section structure completely convincing. Aside from the points made above about the lack of clarity in the descriptions of what is going to be in the individual sections, there seems to be a lot of potential for repetition or randomness in the presentation. I would have thought that a description of "what is used" is	Thank you for this comment. This was improved in the Second Order Draft.
201	Kathryn Phillips (on behalf of UNEP - WCMC)	3	11	322	11	322	Or unsustainable. Otherwise it just sounds like you are suggesting current use is sustainable	Thank you for this comment. This is no longer relevant for the Second Order Draft as it was heavily restructured. Moreover this chapter focus on the status and trend of sustainable use of wild species only.
202	Kenward, Robert	3	11	323	11	328	Are not rural communities in northern countries of at least Eurasia, where they have typically been resident for more than a millennium, not IPLC? Although America is colonised by Europeans and Africans, is not the "North American Model" of wildlife management also of relevance, at least as a relative newcomer?	Thank you for this comment. This was improved in the Second Order Draft.
203	Adeline Lerambert	3	11	327	11	328	Important to recognise that the sustainability of IPLC use through ILK is not independent of other (primarily commercial) uses	Thank you for this comment. This was improved in the Second Order Draft.
204	Kathryn Phillips (on behalf of UNEP - WCMC)	3	11	328	13	329	Box text is a bit simplistic. "There is a lot of information available about mushroom harvesting in Mexico" ?	Thank you for this comment. This was improved in the Second Order Draft.
205	Özden Görücü	3	12	328	13	336	There must be cases from EE to be filled up in the table.	Thanks for this suggested change but it is no longer relevant as the table has been removed.
206	TALEB Mohammed Sghir	3	12	328	13	329	Box 3.1 Add a case from Morocco: The traditional knowledge and know-how that has accumulated over time and from one generation to the next on how to deal with difficult environmental conditions allows them to develop adaptation and mitigation actions to alleviate the problem of climate change.	Thank you for your comment. Use related to domesticated species is out of the scope of this assessment.
207	Cooney, Rosie	3	12	328	12	330	Box 3.1. Would be more helpful to tell us what the Thai communities do actually hunt and gather, before highlighting their management tools. The statement "when mining came to Brazil, the focus became mining, rather than plants, so plant species were able to recover" is excessively broad - is this really true across Brazil? Mexico aspect doesn't make clear what	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
208	Pilling, Dafydd	3	12	329	12	329	General comment referring to Box 3.1: the examples are quite diverse. Some have much more detail than others about historical developments, regulatory frameworks, etc. . It is not very clear what the box is meant to be illustrating. The heading is not very informative in this respect, nor is the call in the main text.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.

209	Butchart, Stuart	3	13	330			A global review of use of birds can be found in Butchart (2008) Red List Indices to measure the sustainability of species use and impacts of invasive alien species. Bird Conservation International 18:S245–S262. Among the results it reported were: "At least 45.7% of extant bird species (4,561 species) are used by humans, principally for pets (37.0%)	Thanks for this suggested reference. We have included it in the new version.
210	Kenward, Robert	3	13	330	25	680	In the section 3.3.1 on Taxonomic groups, there is a reasonable overview of uses to which Fungi and Plants are put. However, the sections on vertebrate animal taxa are incomplete, tending to focus on those used unsustainably, and need complete re-writing. It is suggested that the author focus on describing the main taxa and uses, leaving the	Thank you for this comment. This was improved in the Second Order Draft.
211	Kenward, Robert	3	13	330	25	680	In the section 3.3.1 on Taxonomic groups, there is a reasonable overview of uses to which Fungi and Plants are put. However, the sections on vertebrate animal taxa are incomplete, tending to focus on those used unsustainably, and need complete re-writing. It is suggested that the author focus on describing the main taxa and uses, leaving the	Thanks for this suggested change but it is no longer relevant as the table has been removed.
212	Kathryn Phillips (on behalf of UNEP - WCMC)	3	13	330	14	337	Table 3.2 misses taxonomic groups - needs to reference the CITES Trade Database. The source of the information provided is over a decade out of date. Where are mammals, which include hunting trophies? These are important species that provide a huge source of revenue for governments and local communities as well as providing	Thanks for this suggested change but it is no longer relevant as the table has been removed.
213	Bélanger, Julie	3	13	330	25	680	General comment on sections 3.3.1, 3.3.2, and 3.3.3: From my understanding of the introduction of section 3.3, the title of the assessment and the title of this chapter, the focus is on state and trend of 'use'. A possible logical approach could be to start with what the uses are (3.3.3), then presenting trends in these uses (literally reporting on	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
214	Cooney, Rosie	3	13	332	13	335	This table is only about international wildlife trade, which is a small subset of all use	Thanks for this suggested change but it is no longer relevant as the table has been removed.
215	Germany	3	13	332	13	332	It is not clear what kind of data is presented in table 3.2 and from which source. UNEP-WCMC CITES trade database would mean that only trade in CITES listed species are reflected? What is the time period and how many species are involved? Are only wild specimens or also specimens bred in captivity included? A general comment on this section: There are	Thanks for this suggested change but it is no longer relevant as the table has been removed.
216	Jungwittanaporn, Megan	3	13	332	14	338	The section "Examining Wild Species Uses" is broken into three sub-sections: Taxonomic Groups, Practices categories, and Use categories. It's unclear why the section on 'Taxonomic Groups' opens with a table (Table 3.2) solely on the wildlife trade - why not other uses? Fishing has a much larger impact on fish than the ornamental trade does. This table	Thanks for this suggested change but it is no longer relevant as the table has been removed.
217	Kenward, Robert	3	13	332	14	337	Table 3.2 is so non-comprehensive as to be useless. It needs to be made clear that this represents only international trade, and seems to be based on CITES. Because records are only for species considered possibly endangered by trade, this is totally unrepresentative of traded species overall. It also considers only mammals that are primates. The	Thanks for this suggested change but it is no longer relevant as the table has been removed.
218	Kenward, Robert	3	13	332	14	337	Table 3.2 is so non-comprehensive as to be useless. It needs to be made clear that this represents only international trade, and seems to be based on CITES. Because records are only for species considered possibly endangered by trade, this is totally unrepresentative of traded species overall. It also considers only mammals that are primates. The	Thanks for this suggested change but it is no longer relevant as the table has been removed.
219	Pilling, Dafydd	3	13	332	13	332	The table appears refer to what is traded internationally rather than what is collected.	Thanks for this suggested change but it is no longer relevant as the table has been removed.
220	Oldfield, Thomasina	3	13	334	14	337	2006 is somewhat out of data and this analysis could have been re-done. I am interested that the number of birds is very high and in 2006 the trade in CITES listed birds was around 125,000. Have not gone back to Primack 2006 to check how these figures were arrived at.	Thank you for this comment. This was improved and revised in the Second Order Draft.
221	Sousa Pinto, Isabel	3	13	334	14	336	I don't understand this table or what is meant by major target groups of the worldwide wildlife trade and does not include fish and other marine species harvested for fish that are major groups of wild species traded	Thank you for this comment. This was improved in the Second Order Draft.
222	Adeline Lerambert	3	13	334	14	336	It will be vital to cite the sources of this data when complete (the current source, from 2006, will be very much out of date). It should also be noted that any estimate can only be made using available data, and since much use is informal and therefore unquantified, any data presented will most likely represent a significant underestimate of total trade	Thanks for this suggested change but it is no longer relevant as the table has been removed.

223	Pilling, Dafydd	3	14	334	14	335	Note that John W. Wilson and Richard B. Primack, <i>Conservation Biology in Sub-Saharan Africa</i> . Cambridge, UK: Open Book Publishers, 2019, https://doi.org/10.11647/OBP.0177 contains what appears to be an updated version of this table (page 225).	Thanks for this suggested change but it is no longer relevant as the table has been removed.
224	Fisher, Sue	3	13	335	13	335	Please add cetaceans. Baleen species are taken and traded internationally by three countries for commercial purposes (including food, animal feed and oil) and by indigenous peoples for domestic subsistence use in three other countries. Small cetaceans (small whales, dolphins and porpoises) are hunted for commercial purposes in	Thank you for this comment. This was improved in the Second Order Draft.
225	Stiles, Daniel	3	13	335			Table 3.2 - a publication to appear soon estimates primate trade to be >100,000 annually: Norconk, M. et al. (in press). Reducing the primate pet trade: Actions for primatologists. American Journal of Primatology	Thanks for this suggested change but it is no longer relevant as the table has been removed.
226	Kathryn Phillips (on behalf of UNEP - WCMC)	3	13	335	14	336	Table 3.2 Very old reference - can this be updated from WCMC Species team/CITES database?	Thanks for this suggested change but it is no longer relevant as the table has been removed.
227	Skern-Mauritzen, Mette	3	13	341	13	341	Include assessment of harvest and hunt of marine mammals in this section	Thank you for this comment. This was improved in the Second Order Draft.
228	Germany	3	14	341	14	355	Although the detailed documentation of the unsustainable use of large mammals is outside the scope of the assessment (line 353-355), it is advisable to add the aspect of increasing pressure in recent years driven by foreign demand for wildlife products.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
229	Fokam, Eric	3	14	341	14	355	less charismatic species such as "pangolins" cannot be ignored as they are on the headlines of news media.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
230	Meera Anna Oommen	3	14	343	14	367	I find that the mammals and birds sections are quite sparse (little more than half a page combined) in comparison to other taxonomic groups that are represented subsequently. This is peculiar because we have much more information and more studies conducted on these two groups than the others. It will really help to add more detail.	Thank you for this comment. This was improved in the Second Order Draft.
231	Berridge, Richard	3	14	343	14	353	The paragraph states: "Because there is a significant amount of scientific data and research, policy reports, and international assessments on illegal trade, poaching, and other hunting pressures on mammals, especially great apes, rhinos, elephants, it is well established that there is no such thing as sustainable use of these wild species at the present	Thank you for the comment. We have corrected this statement accordingly.
232	Cooney, Rosie	3	14	343	14	355	This statement is inaccurate and has no place in a serious assessment: "Because there is a significant amount of scientific data and research, policy reports, and international assessments on illegal trade, poaching, and other hunting pressures on mammals, especially great apes, rhinos, elephants, it is well established that there is no such thing as sustainable	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
233	Cooney, Rosie	3	14	343	14	355	Given the enormous importance of mammal hunting in most parts of the world, in subsistence, recreation, culture, food security, income etc, this treatment of it is very inadequate compared to the other taxa discussed here. There is an enormous literature on wildmeat hunting, some recently summarised for the CBD in https://www.cifor.org/library/7046/ , and an	Thank you for your suggestions. The CBD report was included in the second order draft.
234	Pilling, Dafydd	3	14	343	14	343	"Mammals are the main vertebrate group targeted by hunting activities". Given the scale of global capture fisheries, I guess this should be "terrestrial vertebrate group".	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
235	Kathryn Phillips (on behalf of UNEP - WCMC)	3	14	343	14	355	Bit surprising that the entire group of mammals is deemed outside of the scope of the document as no such thing as sustainable use of these wild species? Doesn't this write-off nature tourism/photography?	Thank you for your comment. Nature tourism/photography is in section 3.3.5 on non-extractive practices.
236	White, Harold	3	14	343	14	367	I am concerned that this section does not mention the well regulated use of the hunting of many mammals and birds in North America. Hunted species are often the most well managed. For example many song bird species in NA are declining. However many waterfowl, turkeys, etc. populations are doing very well. because hunting is used as a	Thank you for your comment. This was addressed in the Second Order Draft.

237	Meera Anna Oommen	3	14	344	14	346	This is an overgeneralised statement that has insufficient evidence. Across ecosystems and societies (especially those outside temperate ones), large mammals need not be the most preferred or easiest available source of food. In many traditional small band societies where this has been assessed in detail (e.g the San, the Hadza, the Ache,	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
238	't Sas-Rolfes, Michael	3	14	346	14	354	The claim that it is well established that there is no sustainable use of elephants or rhinos is incorrect. As per Chapter 2, lines 810-813, sustainable use of slow growing species is perfectly possible if appropriate institutions of governance exist. Indeed, this is the case for both rhinos and elephants in certain southern African countries (e.g.	Thank you for the comment. We have corrected this statement accordingly.
239	Fergusson, Richard	3	14	349	3	353	Illogical statement.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
240	Meera Anna Oommen	3	14	349	14	353	How is it well established? that there is no such thing as sustainable use of these species? The authors mention significant scientific data, research, policy reports, and assessments supporting this – but not a single one is cited here. I would like to point out that this is a very biased view, and statements such as this are likely to have serious	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
241	Stiles, Daniel	3	14	349	14	355	These statements are unscientific, biased and contradict IUCN empirical evidence and data with regard to elephants and rhino: https://www.iucn.org/sites/dev/files/trophy_hunting_conservation_and_rural_livelihoods.pdf and https://www.iucn.org/sites/dev/files/iucn_sept_briefing_paper -	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
242	Kathryn Phillips (on behalf of UNEP - WCMC)	3	14	349	14	353	This is completely incorrect. There are examples of sustainable use of mammals, even in those that the paragraph mentions - South Africa has a sustainable use plan for black rhinos which was just endorsed by the CITES CoP - see https://cites.org/sites/default/files/eng/cop/18/doc/E-CoP18-048.pdf	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
243	Erb, John	3	14	349	14	353	I certainly have no experience with the species mentioned here, but it seems rather overdramatic to suggest "there is no such thing as sustainable use of these wild species at the present time". It implies that is not possible to sustainably harvest even 1 rhino or elephant per year. Is that really true? Also not sure why this sentence is even needed.	Thank you for the comment. We have corrected this part according to your comment
244	Oldfield, Thomasina	3	14	351	14	353	This sentence needs changing. There is considerable amounts of trophy hunting in some of these taxa which is sustainable. Sentences as clearly biased as this should not be in an IPBES report.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
245	Kenward, Robert	3	14	352	14	355	Such sweeping statements are quite inappropriate at this stage in the report.	Thank you for this comment. This was improved in the Second Order Draft.
246	Fisher, Sue	3	14	352	14	352	Please add 'great whales' to this list. The International Whaling Commission, which regulates commercial whaling maintains a global moratorium on commercial whaling because of historical over-exploitation and the challenge of managing whaling sustainably. In 2018, it reaffirmed "that the moratorium on commercial whaling, which has been in effect	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
247	Kathryn Phillips (on behalf of UNEP - WCMC)	3	14	352	14	352	sustainable use of these - which ones? Apes, elephant, rhino? Or large bodied? It is not true of all mammals, and some larger ones, like duikers and wild pigs, are probably being sustainably harvested in some areas.	Thank you for your comment. This was taken into account in the Second Order Draft.
248	Mulà, Anna	3	14	353	14	354	Even unsustainable use is outside of the scope, there should be note that wild animals are being poached on a massive scale.	Thank you for your comment. This was taken into account in the Second Order Draft in section 3.3.3.
249	Pilling, Dafydd	3	14	353	14	355	It is not clear what is "outside the scope of this assessment", i.e. it is not clear whether readers are being directed to the global IPBES biodiversity assessments only for threatened species that are being poached and illegally traded or for all mammal species. If the former (which seems to be what the wording implies), it is unclear where readers are meant to go	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
250	Meera Anna Oommen	3	14	354	14	355	Why not give the original references instead of citing some generic regional and global assessments? It is very difficult for a reviewer to track this down. The regional assessments should have got this information from somewhere and it would be important that these sources find a place in this report so that they can be accessed. This is not the first	Thank you for your comment. This was taken into account in the Second Order Draft.

251	Butchart, Stuart	3	14	356			This is a very cursory review of the use of birds. A global quantitative review of use of birds can be found in Butchart (2008) Red List Indices to measure the sustainability of species use and impacts of invasive alien species. Bird Conservation International 18:S245–S262. Among the results it reported were: "At least 45.7% of extant bird species (4,561	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
252	Germany	3	14	357	14	361	Please include a reference to this statement.	Thank you for this comment. This was improved in the Second Order Draft.
253	Oldfield, Thomasina	3	14	357			Mixes what with purpose.	Thank you for this comment. This was improved in the Second Order Draft.
254	Pilling, Dafydd	3	14	357	14	361	"Birds are ... the most popular pet species." Reference for this statement?	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
255	Pilling, Dafydd	3	14	357	14	367	This subsection is also quite thin on information if it is meant to cover the "status and trends of use". For example, there is nothing about the status and trends of hunting for food other than the acknowledgement that it happens. As per comment above, cross-references (as appropriate) to sections where this is discussed would be useful.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
256	Kathryn Phillips (on behalf of UNEP - WCMC)	3	14	358	14	358	looked for = harvested/targeted	Thank you for your comment. This was taken into account in the Second Order Draft.
257	Kathryn Phillips (on behalf of UNEP - WCMC)	3	14	359	14	361	in 'some' personal collection - the writer's distaste for this comes through.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
258	Kathryn Phillips (on behalf of UNEP - WCMC)	3	14	359	14	359	Birds are involved in domestic and international trade chain - this sentence structure makes it sound like the birds are the traders. Revise.	Thank you for your comment. This was addressed in the Second Order Draft.
259	Kathryn Phillips (on behalf of UNEP - WCMC)	3	14	360	14	360	most live animals detected - birds	Thank you for your comment. This was addressed in the Second Order Draft.
260	Germany	3	14	362	14	367	This is a very fascinating example. Please clarify to what quantity the high price amounts to. One nest? A pound?	Thank you very much for your comment. The prices are for per kg, according to the reference, P34 of Riches of the forest: http://www.cifor.org/publications/pdf_files/Books/NTFP-Asia-case.pdf
261	Zhiyuan Hou	3	14	362	14	362	Actually asian swiftlets should be replace the word "Golden swift"	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
262	Zhiyuan Hou	3	14	363	14	364	China's Fujian and Guangdong provinces also produce bird's nest	Thank you for your comment. This was addressed in the Second Order Draft.
263	Pilling, Dafydd	3	14	365	14	365	Surely there must be more up to date information on the prices of birds' nests than from 1998.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
264	Bélanger, Julie	3	14	366	14	367	We note that artificial breeding in the context of use of wild species is mentioned in several places this chapter (e.g. orchids). It would probably be a good idea to explain the significance of these examples. e.g. if artificially breeding or rearing species found in the wild can remove pressure on natural populations, etc.	Thank you for the comment. Regarding the use of artificial planting, captive breeding or rearing, there are some suggestions for solving the challenges of overharvesting of wild plants by artificial propagating. However, in cases regarding animals this is quite

265	Jungwiwattanapor n, Megan	3	14	368	17	429	Fish are listed as a sub-category of animals with a wild species use. The section opens with a brief discussion of food fish, however the only uses described in depth are "3.3.1.1.3.1 Use of fish meal in aquaculture" and "3.3.1.1.3.2 Fish meal and fish oil". A more in-depth section on food fish and large-scale fisheries would be useful. The report says that small	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
266	Jungwiwattanapor n, Megan	3	14	368	17	429	This section could also note sharks as luxury items (i.e. shark fin soup) and their use in traditional medicine. Shark parts such as fins, liver oil, skin, jaws, gill plates, cartilage, etc are all used.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
267	Kathryn Phillips (on behalf of UNEP - WCMC)	3	14	368	18	437	Global patterns mask regional patterns - growth (and contraction) in fish consumption, aquaculture etc varies considerably between nations/regions. Line 381: this is confusing, it is discussing the use of fish meal, which absolutely does use wild species - not genetic supplementation which isn't directly linked to fish meal.	Thank you for your comment. This was addressed in the Second Order Draft.
268	Jia, Gensuo	3	15	370	15	376	For this Table, please clarify whether the Apparent Consumption is included or not in the total Food fish consumption.	Thank you for this suggested change but it is no longer relevant as the figure has been removed.
269	Skern-Mauritzen, Mette	3	15	370	15	370	Please include time series of world catches. FAO provides these time-series, also divided into fully and over exploited, and under used.	Thank you for your comment. This was addressed in the Second Order Draft.
270	Sousa Pinto, Isabel	3	15	372	15	376	From this table is not easy to see how fish consumption when from 9 to 20.2 Kh per capita since fish consumption seems to grow at the same pace as population growth	Thank you for this suggested change but it is no longer relevant as the figure has been removed.
271	Fisher, Sue	3	15	373	15	373	Please also consider the impact of by-catch. For example, 300,000 cetaceans are estimated to be killed in bycatch annually. See for example: https://iwc.int/bycatch	Thank you for your comment. This was addressed in the Second Order Draft.
272	Oldfield, Thomasina	3	15	374			see comment earlier that suggests that "the global inland catch reported as 10.3 MT in 2008 was more likely 16.6 MT (CI, 2.3-30.9), which accords with recent independent predictions for rivers and lakes."	Thank you for your comment. This was addressed in the Second Order Draft.
273	Germany	3	15	375	15	375	Figure 3.1.: The colouring is a little unclear (blue for both "Food" and "Non food uses") - maybe switch colour of "Non-food uses" to something other than blue (e.g. purple or green...).	Thank you for this suggested change but it is no longer relevant as the figure has been removed.
274	Youjia, Liang	3	22	375	22	376	Figure 3.1.1 should be redraw for a better pixel resolution to readers.	Thank you for this suggested change but it is no longer relevant as this figure has been removed.
275	Bélanger, Julie	3	15	376	15	376	Word missing: Utilization	Thank you for this comment. This was improved in the Second Order Draft.
276	Germany	3	15	380	15	383	Please cross-check: The sentence is quite complicated, and needs to be read several times. The authors may wish to check, whether sentence can be improved for the sake of better understanding.	Thank you for your comment. This was addressed in the Second Order Draft.
277	Pilling, Dafydd	3	15	380	16	403	Several points on this subsection: (i) it appears to be entirely based on a 15 year old reference (at least that is the only one cited) and so is not really an up-to-date description of status and trends – the figures for aquaculture production, share of aquaculture in total fish production and number of species used in aquaculture are very out of date (note that like	Thank you for your comment. This was addressed in the Second Order Draft.
278	Fisher, Sue	3	15	381	15	381	Aquaculture also raises serious questions about the sustainability of its feed sourcing, given its reliance on wild fish	Thank you for your comment. This was addressed in the Second Order Draft.

279	Pilling, Dafydd	3	15	381	15	381	Perhaps a mention should be made somewhere in the chapter of the role of crop wild relatives as a source of genetic resources for crop breeding?	Thank you for the comment. To review the crop wild relatives is good, and it has been added to the scientific-use subsection.
280	Sousa Pinto, Isabel	3	15	382	15	383	same reasons to deal then with seaweed aquaculture - about 25% of total aquaculture biomass	Thank you for your comment. This was addressed in the Second Order Draft.
281	Pilling, Dafydd	3	15	383	15	383	The recently published FAO report on <i>The State of the World's Aquatic Genetic Resources for Food and Agriculture</i> could perhaps be used to reference the point about aquaculture relying on wild species	Thank you for this suggestion. However this is out of the scope of this assessment focusing only on wild species (see Chapter 1).
282	Demissew Sebsebe	3	15	384	389		Include reference	Thank you for your comment. This was addressed in the Second Order Draft.
283	Doering, Ralf	3	15	384	15	389	The question is whether the growth in aquaculture has to do with overfishing in the first place. It is clear that demand for fish increased and that led to pressure on wild stocks. Aquaculture is now a possibility to provide more fish. However, it is also allowing the production of large quantities with affordable prices - see salmon aquaculture. In addition,	Thank you for your comment. This was addressed in the Second Order Draft.
284	Jia, Gensuo	3	15	384	16	398	Referring to the current period when world fish production have been estimated, because these values are changing over years. It can be compared to the period between 1987 and 1997.	Thank you for your comment. This was addressed in the Second Order Draft.
285	López-Castro, Melania	3	15	384	15	385	Please define shellfish in the text as it comprises other taxonomic groups and not just fish. It is important for the reader to understand the difference.	Thank you for your comment. This was addressed in the Second Order Draft.
286	Sousa Pinto, Isabel	3	15	384	16	403	Situation here described is very old and there is plenty of much more recent information so is not clear why using data from growth between 1988 and 1994 or 1987???????	Thank you for your comment. This was addressed in the Second Order Draft.
287	Kathryn Phillips (on behalf of UNEP - WCMC)	3	15	384	15	386	What is the reference for this estimate of 220 species and global production - FAO?	Thank you for this suggested change but it is no longer relevant as this statement has been removed.
288	Kenward, Robert	3	16	390	16	398	This is about farmed species, not wild. Figure 2 includes farmed and wild aquatic products and extraneous information on threats.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
289	Serge Michel Garcia	3	16	401	16	403	Because the quantity of fishmeal produced has decreased and aquare has increased, the proportion of the total production used in fish feeds may have increased but I believe that the absolute quantities used are declining as new feeding formulas are developed.	Thank you for this suggested change but it is no longer relevant as this statement has been removed.
290	Adeline Lerambert	3	16	402	15	403	These figures are from very old data sources. More up-to-date information can be obtained from seafish.org/media/publications/Seafish_FishmealandFishOil_FactsandFigures2018.pdf	Thank you for this suggested change but it is no longer relevant as this figure has been removed.
291	Bélanger, Julie	3	16	404	16	404	Just to note that we depart with this subtitle 3.3.1.1.3.2 from the taxonomic approach and move to type of use	Thank you for your comment. This was addressed in the Second Order Draft.
292	SONALI, GHOSH	3	16	414	16	417	Can a para be added on fodo resources (octopus, clams, shellfish) available in tidal mudflats . IUCN CEM also lists total flat ecosystem as a RED listed ecosystem due to overharvesting .	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.

293	Doering, Ralf	3	17	418	17	429	There is increasing research on possible impacts of climate change on fish stocks (see e.g. EU Horizon 2020 project CERES, www.ceresproject.eu). There is also a lot of research on substitution of fish meal and fish oil in feed for aquaculture to reduce the dependency on wild catches of small pelagics.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
294	White, Michael	3	17	418	17	429	This entire global operation needs to become carbon-neutral very quickly: fish stocks will seek out cooler waters	Thank you for your comment. The entire Fishing section has been thoroughly revised in the second order draft.
295	Meixiang, Gao	3	17	421	17	421	Please check the "end" and "users" in this line.	Thank you for your comment. This was addressed in the Second Order Draft.
296	Skern-Mauritzen, Mette	3	17	422	17	422	There is much literature on small pelagic species more recent than cited (2006), as these are both key species in marine systems and commercially important species. This includes also impacts of harvest and climate change. Please make an assessment based on more recent literature	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
297	Sousa Pinto, Isabel	3	17	422	17	423	Very little is know about... And a reference from 2006 - we may know much more now, 13 years later	Thank you for your comment. We updated the Second Order Draft with new references and we reorganized the sections.
298	Meixiang, Gao	3	17	429	17	429	Please remove the "." after the "locally".	Thank you for your comment. This was addressed in the Second Order Draft.
299	Pilling, Dafydd	3	17	431	17	431	There seems to be something wrong with the numbering of the headings at this point	Thank you for this comment. This was improved in the Second Order Draft.
300	Skern-Mauritzen, Mette	3	17	431	17	431	The section on invertebrates needs to be expanded to include crustaceans and other marine inverts, e.g. sea cucumber, scallops... there are some mention on these groups under 3.3.1.1.4 Cephalopos?	Thank you for your comment. We reorganized this whole section around practices and scale, not organisms, so fishing of these invertebrates is now addressed together with fish, especially in small-scale fisheries.
301	Kathryn Phillips (on behalf of UNEP - WCMC)	3	17	431	18	435	Discussion of invertebrates missing or lost by oddly placed figure 2?	Thank you for this suggested change but it is no longer relevant as this figure has been removed.
302	Pilling, Dafydd	3	18	431	18	431	Aquatic invertebrates are covered in both under "fish" (including the subsections on aquaculture) and under invertebrates. Readers may find this confusing. Some kind of explanation of how the presentation of information on these species is organized (plus crossreferences where appropriate) would be useful.	Thank you for your comment. We reorganized this whole section around practices and scale, not organisms, so fishing of these invertebrates is now addressed together with fish, especially in small-scale fisheries.
303	Jungwiwattanaporn, Megan	3	17	432	18	435	The section on invertebrates says this section will provide examples of their use worldwide. It appears no examples are currently provided. Please don't forget marine inverts (i.e. sea cucumbers, octopus, etc.)	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
304	Kenward, Robert	3	18	433	18	435	Figure 3.3 is incomplete with regard to extractive fisheries due to a focus on fish-oil and fish-meal.	Thank you for this suggested change but it is no longer relevant as this figure has been removed.
305	Adeline Lerambert	3	18	434	18	434	Also crustaceans	Thank you for your comment. This was addressed in the Second Order Draft.
306	López-Castro, Melania	3	18	434	18	434	Is there a reason why crustaceans are not included in the invertebrates group? Please clarify this point.	Thank you for your comment. We reorganized this whole section around practices and scale, not organisms, so fishing of invertebrates, including crustaceans, is now addressed together with fish, especially in small-scale fisheries.

307	TALEB Mohammed Sghir	3	17	435	18	436	Figure 3.3 should be moved to the page 17 (line 430)	Thank you for your comment. We have included it in the new version.
308	Skern-Mauritzen, Mette	3	18	439	18	439	The use of insects to produce feed to aquaculture https://doi.org/10.1016/j.aquaculture.2018.03.016	The subsection has been thoroughly revised in the SOD. We have included the case in the new version.
309	Kathryn Phillips (on behalf of UNEP - WCMC)	3	18	439	19		While insects are important, this section is much larger than the section on mammals. Consider rebalancing, adding more to the mammals section.	Thank you for suggestion. The subsection has been thoroughly revised, and so as the mammals section.
310	Windsor, Fredric	3	18	441	19	492	Mentioning the fact that insect also support the functioning of many ecological processes and therefore are an important driver of diversity and ecosystem services in other taxonomic groups may also add weight to this section.	Thank you for suggestion. The subsection has been thoroughly revised and we cannot add text on ecosystem services at it is out of the scope of this assessment (see Chapter 1). T
311	Pilling, Dafydd	3	18	444	18	448	It is not entirely clear from the way this is presented what "most commonly consumed" means or what the percentages represent. (It seems from the source that it refers to the proportions of beetle, lepidopteran, etc. species among the total 1909 species and not to any measure of the actual quantity consumed. Maybe some kind of	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
312	Kenward, Robert	3	18	453	19	454	The first and second sentence "insects contribute to food security" and "not eaten because of hunger or poverty" seem contradictory.	Thank you for this comment. This was improved in the Second Order Draft.
313	Kenward, Robert	3	18	453	19	454	The first and second sentence "insects contribute to food security" and "not eaten because of hunger or poverty" seem contradictory.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
314	Pilling, Dafydd	3	18	453	19	454	Perhaps an overly sweeping statement. It seems unlikely that insects are never eaten because of hunger or poverty.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
315	Pilling, Dafydd	3	19	461	19	462	Aren't crickets still kept as pets in China and elsewhere?	Thank you for your comment. The subsection has been thoroughly revised in the SOD. Still in such use but in a very small scale as a traditional culture.
316	Sousa Pinto, Isabel	3	19	461	19	462	also in Portugal (when I was a kid) and there were also special houses to keep them. This was very popular - probably in other countries in Europe at least.	Thank you for your comment and clarifications. The Second Order Draft has been revised substantially and this comment has been addressed.
317	CAMARENA, Maria	3	19	470	19	474	Caution with this generalization. IUCN Red List refers to "categories" whereas CITES refers to Appendices (I to III). The fact that a species is endangered, endemic, and potentially traded is not sufficient justification in itself for its listing in CITES Appendices. See full process in Resolution Conf. 9.24 (Rev. CoP17). It is important to make a CLEAR distinction	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
318	Demissew Sebsebe	3	19	470	475		What is the distinction between collection and edible insects? What are collection insects used for?	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
319	Kathryn Phillips (on behalf of UNEP - WCMC)	3	19	470	19	410	There are several genera of butterflies listed in CITES and there has been substantial trade - analysis of the CITES trade database is needed here.	Thank you for your comment and clarifications. The Second Order Draft has been revised substantially and this comment has been addressed.
320	Morgan, David (on behalf of CITES)	3	19	472	19	474	Beetles from Cameroon, perhaps not, but beetles collected from Bolivia and South Africa are regulated by CITES, so this is a case-specific remarks and not one with any wider lesson.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.

321	Oldfield, Thomasina	3	19	472		474	IUCN Red List only includes taxa that have been assessed . CITES Appendices include species proposed and that are agreed by the Parties. Some species of ornamental butterflies and beetles are included! CITES only regulate species in international trade.	Thank you for your comment and clarifications. The Second Order Draft has been revised substantially and this comment has been addressed.
322	Kathryn Phillips (on behalf of UNEP - WCMC)	3	19	473	19	474	Should this read ' nor in the CITES appendices'? In addition, there are a few species of rare endemic butterflies listed in CITES (e.g. Luzon Peacock Swallowtail) so this perhaps needs a slight re-write	Thank you for your comment and clarifications. The Second Order Draft has been revised substantially and this comment has been addressed.
323	Kathryn Phillips (on behalf of UNEP - WCMC)	3	19	476	19	476	over - not on longer distances	Thank you for your comment and clarifications. The Second Order Draft has been revised substantially and this comment has been addressed.
324	Bélanger, Julie	3	19	489	19	490	It is good to see this note as this kind information will be needed for applying the confidence framework. Ideally the availability and quality of data/information should be systematically evaluated.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
325	López-Castro, Melania	3	20	493	20	500	If this section is about cephalopods, why are there other mollusk groups and crustaceans discussed too?	Thank you for your comment. The subsection has been thoroughly revised and improved.
326	Minter, David	3	20	493	20	502	Animals. The taxonomy in 3.3.1.1.4 (and elsewhere) is shockingly inaccurate. The heading for that section is "Cephalopoda" but, in addition to squids and the like, it also deals with clams, crabs, gastropods, lobsters, mussels, shrimps. None of these are cephalopods. More generally the bundling of fish (vertebrates) and shellfish (invertebrates)	Thank you for your comment. The subsection has been thoroughly revised and improved.
327	Pilling, Dafydd	3	20	493	20	500	Presumably the heading should be something like " Marine invertebrates" or "Marine molluscs and crustaceans" given that several groups other than cephalopods are mentioned (and to my understanding the figures presented refer only to marine production - it is unclear where inland aquatic and non-insect terrestrial invertebrates are going to be	Thank you for your comment. The subsection has been thoroughly revised and improved.
328	Demissew Sebsebe	3	20	493			What are cephalopods?	Thank you for your comment. Cephalopod, any member of the class Cephalopoda of the phylum Mollusca, a small group of highly advanced and organized, exclusively marine animals. The octopus, squid, cuttlefish, and chambered nautilus are familiar
329	Sousa Pinto, Isabel	3	20	493			cephalopos - ver	Thank you for your comment and clarifications. The Second Order Draft has been revised substantially and this comment has been addressed.
330	Bélanger, Julie	3	20	494	20	495	This sentence about cephalopods makes reference to figure 3.4 which is not about cephalopods, but about shrimps, crabs, lobsters and gastropods. Therefore the figure does not illustrate the point made in the sentence.	Thank you for the comments but this is no longer relevant as the figure was removed.
331	Pilling, Dafydd	3	20	494	20	494	The reference to growth of cephalopod catches having "started" in 2010 reads strangely. To my understanding growth resumed in 2010 after a dip in 2009 (see SOFIA 2012 page 8). 2008 was apparently a record year (see SOFIA 2010 page 15). Note that I am not suggesting that all these details should be included, but that if trends in cephalopod catches	Thank you for your comment. The subsection has been thoroughly revised and improved.
332	Serge Michel Garcia	3	20	494	20	500	This section is confusing as its title mis about cephalopods and its content is about many other groups.	Thank you for your comment and clarifications. The Second Order Draft has been revised substantially and this comment has been addressed.
333	Pilling, Dafydd	3	20	497	20	497	Presumably this should read "other mollusc groups", i.e. other than cephalopods.	Thank you for your comment. The subsection has been thoroughly revised and improved.
334	Stiles, Daniel	3	20	498	20	500	The value of South African abalone greatly exceeds any of these in price per tonne: Okes N., Bürgener M., Moneron S., Rademeyer J. (2018). Empty Shells: An assessment of abalone poaching and trade from southern Africa. Cambridge, UK: TRAFFIC.	Thank you for this suggested change but it is no longer relevant as this statement has been removed.

335	Kenward, Robert	3	20	499	20	499	In a section on cephalopods, these are not cephalopods.	Thank you for your comment and clarifications. The Second Order Draft has been revised substantially and this comment has been addressed.
336	López-Castro, Melania	3	20	502	20	502	The legend of figure 3.4 is wrong. It says catch of important cephalopod groups and yet, none of the lines in the graph belongs to a cephalopod group.	Thank you for your comment. The subsection has been thoroughly revised and improved.
337	Bélanger, Julie	3	20	502	20	502	There is a mismatch between the actual title of the graph, and the title of the figure provided below.	Thank you for this suggested change but it is no longer relevant as this figure has been removed.
338	Pilling, Dafydd	3	20	503	21	547	This subsection on reptiles and amphibians is very dominated by discussion of trade, particularly international trade. Presumably reptiles and amphibians are also collected for home use and for local trade in informal markets. Even if there is not much information available, I would have thought this kind of use should get more acknowledgement than the	Thank you for your comment. The subsection has been thoroughly revised and improved.
339	TALEB Mohammed Sghir	3	20	503	21	547	In the section 3.3.1.1.5 Amphibians and Reptiles: Give some examples of reptile species as: Uromastyx and snakes which are very marketed.	Thank you for your comment. The subsection has been thoroughly revised and improved.
340	Fokam, Eric	3	20	503	21	547	subheading would be enriched with mentions of the case of the Goliath frog, Conraua goliath...	Thank you for your comment and clarifications. This was addressed in the Second Order Draft.
341	Fokam, Eric	3	20	503	21	547	subheading should be moved to "page 14, line 367" to maintain a storyline recollecting the contribution of animal taxa following a phylogenetic approach; and if the authors prefer an approach based on "economic contribution", let it move to "Page 17, line 437, just before the subheading on Invertebrates"	Thank you for your comment and clarifications. The Second Order Draft has been revised substantially and this comment has been addressed.
342	Fergusson, Richard	3	20	506	20	506	Refer to significant but poorly documented trade in Crocodylus siamensis into China for food	Thank you for your comment. The subsection has been thoroughly revised and improved.
343	Kathryn Phillips (on behalf of UNEP - WCMC)	3	19	513	19	515	How many of the 330 are covered by CITES?	Thank you for your comment. The subsection has been thoroughly revised and improved.
344	Pilling, Dafydd	3	20	513	21	517	References for these figures?	Thank you for your comment. The subsection has been thoroughly revised and improved.
345	Demissew Sebsebe	3	21	514	517		Add reference	Thank you for this suggested change but it is no longer relevant as this statement has been removed.
346	Demissew Sebsebe	3	21	515			Add "WISE" in the acronym section	Thank you for this suggested change but it is no longer relevant as this statement has been removed.
347	Kathryn Phillips (on behalf of UNEP - WCMC)	3	21	517	21	517	Needs references for confiscation/seizure data is this UNODC?	Thank you for your comment. The subsection has been thoroughly revised. Moreover, trade in wild species are considered in Chapter 4.
348	Adeline Lerambert	3	21	518	21	532	These data are very outdated. Many more studies particularly on reptile trade exist - eg Auliya et al. 2016 Trade in Live Reptiles, its impact on wild populations, and the role of the European Market. Biol. Cons. 204 (A), 103-119. See also illicit trade reports eg interpol.int/en/News-and-Events/News/2019/Illicit-trade-in-reptiles-hundreds-of-seizures-and-	Thank you for your comment. The subsection has been thoroughly revised. Moreover, trade in wild species are considered in Chapter 4.

349	Kathryn Phillips (on behalf of UNEP - WCMC)	3	21	518	21	532	The data in the Schlaepfer et al 2005 paper is from the United States LEMIS database - it might be helpful to make the source of the data clearer	Thank you for your comment. The subsection has been thoroughly revised. Moreover, trade in wild species are considered in Chapter 4.
350	Kathryn Phillips (on behalf of UNEP - WCMC)	3	21	522	21	528	This whole section appears to be copied directly from Schlaepfer et al 2005. Given that Iguana iguana have been listed on CITES since 1977, international trade should be captured in the CITES Trade Database and therefore an up-to-date picture could be obtained through analysing these data.	Thank you for your comment. The subsection has been thoroughly revised. Moreover, trade in wild species are considered in Chapter 4.
351	Kathryn Phillips (on behalf of UNEP - WCMC)	3	21	525	21	528	Point about iguanas better made with data using the CITES Trade Database	Thank you for your comment. The subsection has been thoroughly revised.
352	Pilling, Dafydd	3	21	525	21	532	The text has no reference from later than 2005 on trade in amphibians. I have no particular knowledge of the literature, but a simple internet search produces this for example: Carpenter, A., Andreone, F., Moore, R.D., Griffiths, R., 2014. A review of the international trade in amphibians: the types, levels and dynamics of trade in CITES-listed	Thank you for your comment. The subsection has been thoroughly revised. Trade in wild species is now being considered in Chapter 4.
353	Kathryn Phillips (on behalf of UNEP - WCMC)	3	21	528	21	529	The US market represents about 12 to 15 percent of the market made up by all other CITES party nations' - this appears to be from Schlaepfer et al 2005 (who stress that it is a coarse estimate), but there is no reference and no indication that the estimate is coarse.	Thank you for your comment. The subsection has been thoroughly revised.
354	Demissew Sebsebe	3	21	528			Change percent to % to be consistent	Thank you for this suggested change but it is no longer relevant as this statement has been removed.
355	CAMARENA, Maria	3	21	529	21	529	Editorial: Change "party nations" simply to "Parties".	Thank you for this comment. This was improved in the Second Order Draft.
356	Kathryn Phillips (on behalf of UNEP - WCMC)	3	21	529	21	532	The trade in reptiles and amphibians under CITES does not represent a small minority of the global trade in this taxa. It includes the species that are considered most in need of monitoring. The EU also has stricter domestic measures, meaning that control of imports is required for some non-CITES species where there may be a need for trade monitoring.	Thank you for your comment. The subsection has been thoroughly revised. Moreover, trade in wild species are considered in Chapter 4.
357	Morgan, David (on behalf of CITES)	3	21	529	21	532	This remark may have some pertinence, but it does not apply to Iguana iguana which is the example given. Trade in this species IS regulated by CITES Parties.	Thank you for your comment. The subsection has been thoroughly revised. Trade in wild species is now being considered in Chapter 4.
358	Oldfield, Thomasina	3	21	531		532	suggest you check the following page for what is included in CITES Appendices which does include a number of amphibians and reptiles cites.org/eng/disc/species.php	Thank you for this suggested change but it is no longer relevant as this statement has been removed.
359	Kathryn Phillips (on behalf of UNEP - WCMC)	3	21	535	21	536	Refs required.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
360	Pilling, Dafydd	3	21	551	21	552	The "Pierioni" reference is not in the reference list. I guess it refers to this: Pieroni, A., Nebel, S., Santoro, R. F., Heinrich, M. (2005). Food for two seasons: culinary uses of non-cultivated local vegetables and mushrooms in a south Italian village, Int. J. Food Sci. and Nutr. 56, 245–272. However, the closest thing I can find to the statement "with the	Thanks for this suggested reference. We have included it in the new version.
361	Sousa Pinto, Isabel	3	21	552	21	552	recent years (2005)	Thanks for this suggested change. The statement has been rewritten.
362	Sousa Pinto, Isabel	3	21	557	21	558	today (2004)	Thanks for this suggested change. The statement has been rewritten.

363	Sousa Pinto, Isabel	3	21	563	21	563	replace "utility" with use	Thanks for this suggested change. The statement has been rewritten.
364	Pilling, Dafydd	3	22	570	22	574	References for this paragraph?	Thank you for this suggested change but it is no longer relevant as this statement has been removed.
365	SONALI, GHOSH	3	22	570	22	577	to add scientific names.	Thank you for suggestion. The statement has been rewritten.
366	Mohamed abourouh	3	29	572	29	574	For more precision and safety, it's necessary to add, between brackets, Latin names of the cited edible species, as follow: chicken of the woods (<i>Laetiporus</i> spp.), hen of the woods (<i>Grifola frondosa</i>), lobster mushrooms (<i>Hypomyces lactifluorum</i>), puffballs (<i>Calvatia gigantea</i> , synonyme of <i>Langermannia gigantea</i>), ink caps (<i>Coprinus comatus</i> and	Thank you for this comment. This was improved in the Second Order Draft.
367	Sousa Pinto, Isabel	3	21	573	21	573	chicken of the woods, hen of the woods are names of mushrooms but as they are don't make much sense.	Thanks for this suggested change. The statement has been rewritten.
368	Mohamed abourouh	3	29	574	29	575	Add to chaga (<i>Inonotus obliquus</i>), as a list of popular wild species collected for tea and medicinal purposes, the following species : shitake (<i>Lentinus edodes</i>), reishi or lingzhi (<i>Ganoderma lucidum</i>), turkey tail (<i>Trametes versicolor</i>), caterpillar fungus (<i>Ophiocordyceps sinensis</i>), mokitake (<i>Panellus serotinus</i>), wood ear mushrooms (<i>Auricularia</i> spp.).	Thank you for this comment. This was improved in the Second Order Draft.
369	SONALI, GHOSH	3	22	575	25	688	CASE STUDY BOXES WOULD BE USEFUL e.g. pangolin and Gecko trade as new emerging species in Asia region	Thank you for your comment. The subsection has been thoroughly revised. Trade in wild species is now being considered in Chapter 4.
370	Mohamed abourouh	3	29	577	29	577	Add the following references for Spain : de Aragon <i>et al.</i> 2007 ; de Frutos <i>et al.</i> 2016.	Thank you for this suggestion. We have chosen not to include it in the assessment, as it was not the right page/line.
371	Mohamed abourouh	3	30	593	30	594	Between lines 593 and 594 (Page 30), I propose you to include the following data: "In Morocco, the most valuable wild edible mushrooms are: <i>Boletus</i> spp., <i>Cantharellus</i> spp., <i>Craterellus</i> spp., <i>Hydnum repandum</i> , <i>Morchella</i> spp., <i>Pleurotus</i> spp., <i>Terfezia</i> spp., <i>Tirmania</i> spp., and	Thanks for comments, we have chosen to include them in the new section.
372	Damayanti, Elyn	3	23	594	23	599	How about yeast (<i>Rhizopus</i> spp.) to produce "tempe" (fermented soy beans) in Java (Indonesia) and the <i>tempe</i> production has now spread around the world? There should be many references (including journal articles) related with the yeast (<i>raai</i>) and <i>tempe</i> . One of references on <i>tempe</i> is	Thank you for suggestion. The subsection has been rewritten.
373	Pilling, Dafydd	3	23	594	23	599	References for this paragraph?	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
374	López-Castro, Melania	3	23	599	23	599	Please add the common name of <i>Zizania latifolia</i> (wild rice)	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
375	Kathryn Phillips (on behalf of UNEP - WCMC)	3	23	600	23	602	This seems to rather go against the lengthy discussion re 'wild species' and the need for management/propagation ...what about maintenance of wild micro fungi?	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
376	Damayanti, Elyn	3	23	603	24	680	Worth to check PROSEA publications (19 volumes) for various plant resources of Southeast Asia: uses, botany, ecology, agronomy or silviculture, genetic resources, breeding, prospects, and literature. At least, status of PROSEA can be included to cover broader area (examples provided from the beginning of Chapter 3 so far mostly came	Thank you for suggestion. The subsection has been rewritten.

377	Germany	3	23	603	23	603	I suggest to remove the content within the brackets. Or: Please insert the details provided in the bracket in a sentence at the start of this section.	Thank you for this suggested change but it is no longer relevant as this statement in bracket has been removed.
378	Jun Wang	3	23	603	24	680	The reason of choosing Orchids and Cacti are needed, or give detailed explanations on Timer, medicinal, herbaceous and shrub.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
379	Timoshyna, Anastasiya	3	23	603	23	615	This sub-chapter needs edits (i am a co-author of the publication quoted here and can offer a re-write to ensure correct information). Medicinal and aromatic plants are missing at present are missing. Once again, I'll be happy to offer a sub-chapter, based on best available knowledge and expertise, including as a specialist on medicinal plants	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed in a new section 3.3.2.8.
380	Kathryn Phillips (on behalf of UNEP - WCMC)	3	23	605	23	615	Very strange para - veers from documented examples of species use to suggestions and provides odd country-species combinations from one ref!	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
381	Minter, David	3	23	611	23	611	the example of caribou + lichens is nothing to do with plants and should be moved from the plant section up into the fungus section	Thank you for suggestion. The subsection has been rewritten.
382	Demissew Sebsebe	3	23	617			One of the largest families of the flowering plants, Orchidaceae includes the Orchids....	Thank you for suggestion. The statement has been rewritten.
383	Demissew Sebsebe	3	23	618			Reference needed	Thank you for suggestion. The author agreed with the suggestion and added reference.
384	Demissew Sebsebe	3	23	618	627		Please look for more diversity and uses in Asia. Vanilla is also produced from Madagascar. Please cjeheck for more information.	Thank you for suggestion. The subsection has been rewritten.
385	Bélanger, Julie	3	23	619	23	621	The focus here on Canada/USA seems a bit out of place and unbalanced.	Thank you for suggestion. The subsection has been rewritten.
386	Kathryn Phillips (on behalf of UNEP - WCMC)	3	23	620	23	621	Why are these genera noteworthy - because they are important for trade?	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
387	Pilling, Dafydd	3	23	621	23	627	References for the text starting "Orchids are ..."?	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
388	CAMARENA, Maria	3	24	629	24	640	- After orchids, include the specification in brackets (Orchidaceae). - Editorial: ...and <u>their</u> international trade-in-orchids is regulated by...	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
389	López-Castro, Melania	3	24	629	24	629	The sentence starting in this line should say "orchids are of the most traded plants globally,"	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
390	Kathryn Phillips (on behalf of UNEP - WCMC)	3	24	631	24	635	This section is a straight copy from Hinsley et al, 2018 A review of the trade in orchids and its implications for conservation, 'Table 1' in the citation is in fact the table in the original paper.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.

391	CAMARENA, Maria	3	24	634	24	636	Delete " sent te" to " <u>exported</u> "	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
392	CAMARENA, Maria	3	24	654	24	662	- Cacti are not (as a whole) referred to simply as prickly pears (this might be the case of species of the genus <i>Opuntia</i> , but it is not a common name representative of a family as diverse as Cactaceae). On the other hand, the precision on <i>Rhipsalis</i> should be a footnote (as it is an exception), this to keep the focus on the fact that with this exception.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
393	López-Castro, Melania	3	24	654	24	654	The sentence starting in this line should say "Commonly known as prickly pears, cacti comprise about..."	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
394	López-Castro, Melania	3	24	654	25	679	Please review this section for the proper use of the words cactus and cacti. They are both used indifferently to refer to the plural.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
395	Pilling, Dafydd	3	24	654	24	654	Cacti in general are not "commonly known as prickly pears". Prickly pears are a type of cactus	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
396	Pilling, Dafydd	3	24	657	24	658	It is unclear why this sentence on cactus biology is here. There are no equivalents for most of the other taxonomic groups discussed in this section	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
397	Kathryn Phillips (on behalf of UNEP - WCMC)	3	24	665	24	665	Odd hyperlink inclusion? Same on 678/679.	Thank you for your suggestion. the hyperlink has been removed.
398	Pilling, Dafydd	3	25	670	25	670	It may not be clear to readers what "completely globally assessed" means (i.e. that it refers specifically to assessment for The IUCN Red List).	Thank you for this comment. This was improved in the Second Order Draft.
399	Kathryn Phillips (on behalf of UNEP - WCMC)	3	25	670	25	674	You mean globally assessed by the IUCN? The stats on % used needs a reference	Thank you for this comment. The reference was added in the Second Order Draft.
400	Kenward, Robert	3	25	677	25	679	The validity of the statement that plant extinction is mainly due to trade could not be checked as the link is no longer active.	Thanks to you for noticing. We updated the reference.
401	Germany	3	25	677	25	679	Please consider moving these lines up to line 615 and to use them as a starting point to explain why there will be a focus on orchids and cactus.	Thank you for suggestion
402	Kenward, Robert	3	25	677	25	679	The validity of the statement that plant extinction is mainly due to trade could not be checked as the link is no longer active.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
403	Pilling, Dafydd	3	25	677	25	679	Presumably this should read "cactus species" (the web link does not work by the way)	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
404	CAMARENA, Maria	3	25	679	25	680	- Whenever referring to a CITES-listed species, make sure to refer to the nomenclature adopted by the Convention. In this particular case, the correct species name for the saguaro cactus is <i>Carnegiea gigantea</i> . For further reference please see: https://www.kew.org/sites/default/files/2019-02/CITES%20Cactaceae%20Checklist%20Third%20Edition.pdf	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.

405	Demissew Sebsebe	3	25	681			3.3.2. Practice categories rather than Practices categories	Thank you for the suggestion. We updated the name of the section.
406	Kenward, Robert	3	25	681	69	1741	Compared to section 3.3.1, sections 3.3.2 and 3.3.3 are an informative breath of fresh air. If section 3.3.1 is needed at all, beyond incorporation of some of the more informative and balanced parts in these later sections, it could use Table 3.7 to identify taxa by geographic area, perhaps also indicating (e.g. with asterisks) the taxa/regions in which	Thank you for the suggestion. We reorganized the whole section 3.3.
407	Kenward, Robert	3	25	681	69	1741	Compared to section 3.3.1, sections 3.3.2 and 3.3.3 are an informative breath of fresh air. If section 3.3.1 is needed at all, beyond incorporation of some of the more informative and balanced parts in these later sections, it could use Table 3.7 to identify taxa by geographic area, perhaps also indicating (e.g. with asterisks) the taxa/regions in which	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
408	Bélanger, Julie	3	25	684	25	684	Purpose is not the same as practice. A better word could probably be found to replace purpose.	Thank you for this comment. This was improved in the Second Order Draft.
409	Freyer, Daniela	3	24	689	24	689	As per previous comments, suggested inclusion of non-extractive sustainable use in the form of humans benefiting from regulating and supporting ecosystem services. For example: Chami, R. et al., 2019. Nature's solution to climate change: A strategy to protect whales can limit greenhouse gases and global warming. International Monetary Fund.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
410	López-Castro, Melania	3	26	689	26	694	Some examples that could be used for this section are whale shark and sea turtle watching in México and other countries. These two cases are perfect for showing how a low impact activity can affect wildlife populations when done without proper management	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
411	Pilling, Dafydd	3	26	691	26	694	The sentence reads strangely. If the approach dates back to 1990 it is not a particularly new "light".	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
412	Kathryn Phillips (on behalf of UNEP - WCMC)	3	26	696	26	737	Is "Viewing" (described as wildlife viewing in parks) and "Ecotourism" really a different thing? Not sure about the need to separate them	Thank you for your comment. These sections have been combined under the heading "Recreation" in keeping with the rest of Chapter 3's structure.
413	Meera Anna Oommen	3	26	697	28	769	The authors seem to equate 'non-extractive' practices with benign practices and vice versa. For instance, practices such as viewing and ecotourism are promoted in a very simplistic manner. While tourism has benefits to wildlife and communities, it also has a very significant dark side. Problematic aspects include the exclusion of local communities	Thank you for this comment. We agree that the "dark side" of recreational use was not sufficiently addressed in the document. We have considerably revised this section and feel that the section is more nuanced in it's approach to non-extractive practices
414	Kathryn Phillips (on behalf of UNEP - WCMC)	3	26	697	26	707	A sentence or two, perhaps after sentence ending on line 705 would be valuable that recognises the 'between states' category of habituated animals for the purposes of nature viewing. The intention of this category is (largely) to not to affect behaviour as a result of viewing, but an often lengthy process of habituation must be completed prior to assume this	Thank you for this comment. We agree that the "dark side" of recreational use was not sufficiently addressed in the document, including habituating wild species, especially through feeding and baiting. We have considerably revised this section and feel that the
415	Stiles, Daniel	3	26	697	26	707	Vehicles interfering with wildlife is becoming a serious problem in many of Africa's and Asia's game parks, especially with predators. The increasing number of visitors and vehicles is creating large environmental problems as well.	Thank you for this comment. This section has been considerably revised and the impact of noise and vehicles on wild species being viewed recreational has been mentioned.
416	IPSI Secretariat, United Nations University (UNU-IAS)	3	26	699	26	700	There is an absence of educational uses in the examples for non-extractive use. Particularly such uses have been used extensively in "Satoyama"landscapes such as nature schools, museums, etc. to foster renewed relationships with people and nature	Thank you for this comment. Educational aspects of non-extractive use of nature are now included in section 3.3.5.4. Science & Education.
417	Fisher, Sue	3	26	708	26	708	Please note that the global value of whale watching was estimated to generate over US\$2 billion in 2009, with potential estimated at over 2.5 billion USD a year and around 19,000 jobs around the world (Cisneros-Montemayor AM, et al. The global potential for whale watching. Marine Policy (2010). doi:10.1016/	Thank you for this reference. This was taken into account in the Second Order Draft.
418	Adeline Lerambert	3	26	708	26	712	The data here is very outdated. Suggest quoting from the UNWTO eg http://cf.cdn.unwto.org/sites/all/files/docpdf/unwtowildlifepaper.pdf which states, inter alia, that total international tourism receipts for Africa in 2013 reached US\$ 34.2 billion, the majority of which was wildlife watching oriented, and that international tourist arrivals in Africa are predicted to	Thank you for this reference. We have incorporated these values in the revised text.

419	Pilling, Dafydd	3	26	709	26	709	Source for these figures? (US National Park Service seems to report somewhat fewer than 350 million visitors annually: https://www.nps.gov/aboutus/visitation-numbers.htm)	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
420	Pilling, Dafydd	3	26	710	26	710	Sports fishing is presumably only non-extractive when the fish are released back into the water rather than taken away to be eaten, stuffed, etc.	Thank you for this reference. This was taken into account in the Second Order Draft.
421	Sousa Pinto, Isabel	3	26	710	26	710	Why is sport fishing a non-extractive activity. Since is fishing this does interfere directly with nature	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
422	Stiles, Daniel	3	26	710			Sport fishing is extractive, unless catch-and-release is practiced. Most fishermen keep their catch.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
423	Stiles, Daniel	3	26	710			Sport fishing is extractive, unless catch-and-release is practiced. Most fishermen keep their catch.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
424	Adeline Lerambert	3	26	712	26	715	The example given here is extractive use (hunting and fishing) - It's not clear where this fits into a section on 'viewing'. Is this meant to be a comparison? If so it should say so.	Thank you for this comment. As per the definition of non-extractive practices (see Chapter 1), "viewing" is covered under the section on Non-Extractive Practices. This section was improved in the Second Order Draft.
425	Oldfield, Thomasina	3	26	712		715	These sentences should come under extractive use not Viewing.	Thank you for this reference. This was taken into account in the Second Order Draft.
426	Stiles, Daniel	3	26	713	26	715	Hunting and fishing do not belong in this section.	Thank you for this comment. This was revised in the Second Order Draft.
427	Pilling, Dafydd	3	26	714	26	714	It is not clear where the US\$ 100 billion figure refers to, i.e. it reads as though a large but unspecified number of areas all have 100 billion dollar recreational hunting and fishing industries.	Thank you for this comment. This was improved in the Second Order Draft.
428	Kenward, Robert	3	26	715	26	715	For the most up-to-date review see https://wsfrprograms.fws.gov/subpages/nationalsurvey/nat_survey2016.pdf	Thank you for this reference. We have included the latest recreational use data from this report.
429	Damayanti, Eilyn	3	26	715	26	715	<Placeholder: More examples to be added> More examples from Southeast Asia and the Pacific are expected, not only for this section but also to other sections on wildlife and plants.	Thanks for this suggested change. The subsection has been revised.
430	Finnish national IPBES panel (Oksanen, Elina)	3	26	715	26	715	The recreational use of wilderness is very strong also in Scandinavian Lapland. More information: https://www.businessfinland.fi/globalassets/new-pictures/talent-boost/tourism-2018-as-export-infographic.pdf	Thank you for the suggestion. We cannot add additional text to the chapter due to word length restrictions. As this is another example to a point that has already been made and not crucial to our critical evaluation, we have chosen not to include it here.
431	Cooney, Rosie	3	21	716	21	718	This statement is over-generalised and unreliable. Viewing tourism may be highly sustainable or highly detrimental, depending on how it is done, and how it compares to consumptive forms of use depends entirely on the specifics of the case. For instance, in comparing recreational hunting and viewing, one must consider that i. animals are killed in hunting, but	Thank you for this suggested change but it is no longer relevant as this statement has been removed.
432	Fisher, Sue	3	26	716	26	716	It is worth noting that nature tourism provides an immediate or transitional opportunity for individuals or communities previously involved in hunting the same species. For example, communities in several developed (eg USA and Australia) and developing (eg South Africa and Brazil) ex-whaling countries have made a profitable transition from	Thank you for your comment. This is a very interesting observation which we have mentioned in the case study on whale-watching and has also will be mentioned with respect to terrestrial game hunting .

433	Jia, Gensuo	3	26	716	27	730	In this context, just referring to "aquatic ecosystems" is confusing, because viewing animals and plants in terrestrial ecosystems are also considered to be more sustainable than other forms of use, such as hunting, as viewing does not involve killing or removing organisms from their environment. So, it is better to add the information about terrestrial	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
434	Kathryn Phillips (on behalf of UNEP - WCMC)	3	26	716	27	736	Rather devoid of discussion on terrestrial/mammal species uses. Other examples warrant inclusion	Thank you for your comment. This section has been considerably revised and many more terrestrial examples have been added.
435	Adeline Lerambert	3	27	716	27	730	Suggest also considering including reference to studies on impacts of wildlife viewing on penguin populations, to demonstrate intra-taxonomic differences in impacts. Eg Ellenberg 2017. Impacts of penguin tourism. In Ecotourisms Promise and Peril pp 117-132. https://link.springer.com/chapter/10.1007/978-3-319-58331-0_8	Thank you for your suggestion. This text has been considerably revised to more thoroughly address the impacts (behavioural, physiological, and habitat change) of recreational use on wild species. This example supports a point that we have already made in the
436	Erb, John	3	26	717	26	717	I do not like these relative comparisons. What does "more sustainable" even mean. Something is either sustainable or not at a point in time. Saying "more sustainable" is not valid in my opinion and just tends to pit extractive against non-extractive. Both can be sustainable or unsustainable. And with similar "flavor" to my previous comment, the	Thank you for your comment. This text has been considerably revised and this statement was removed as it is misleading (as you have highlighted).
437	Germany	3	26	718	26	721	The section should also include the aspect of noise of boats used for viewing which has been shown to alter behaviour of marine species.	Thanks for this suggested change. We have included it in the new version.
438	Pilling, Dafydd	3	26	728	27	730	It is not clear what this example is meant to be illustrating. It does not seem to illustrate any scale-related effect.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
439	Pilling, Dafydd	3	27	731	27	735	These examples seem to relate to the themes introduced in lines 718 to 721. If they are to be used, maybe they should be moved up to before the discussion of the impacts of scale	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
440	Pilling, Dafydd	3	27	735	27	735	This recommendation as to what should be done seems to be out of keeping with the descriptive approach taken above.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
441	Sousa Pinto, Isabel	3	27	736			Even if is only viewing the regular presence of people can alter the behaviour of animals and be a stress e.g. many marine mammal watching is now regulated (distance from the animals, number of boats, and so on to prevent excess stress. Also studies to watch bears. Research shows the effects of these non-extractive uses.	Thank you for your suggestion. This text has been considerably revised to more thoroughly address the impacts (behavioural, physiological, and habitat change) of recreational use on wild species.
442	Oldfield, Thomasina	3	27	737			Why is Ecotourism different from Viewing?	Thank you for your comment. These terms are defined in the glossary.
443	Pilling, Dafydd	3	27	737	27	737	Most ecotourism is presumably to do "viewing", i.e. maybe some further thought needs to be given to the structure of the subsections here.	Thank you for the suggestion. The section has been considerably revised.
444	Newing, Helen	3	27	737	28	769	This section on ecotourism is good as far as it goes but again, it does not capture the depth of information that is available. One absolutely crucial missing factor is the potential (and pitfalls) of ecotourism as a motivator for local community support for conservation.	Thank you for your comment. Please see the definition of "ecotourism" in the glossary. We have addressed tourism as benefit for local economies and conservation in the revised text.
445	Kathryn Phillips (on behalf of UNEP - WCMC)	3	27	737	27	769	Apologies but in general this section is rather disorganised and not well written. Could benefit from a strong revision perhaps organising examples of ecotourism across taxa groups that present both good and bad outcomes for species as a result of viewing activities - that are well referenced and researched.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
446	Bélanger, Julie	3	27	739	27	742	The definition of ecotourism provided seems to be missing several 'sustainability' aspects. The International Ecotourism Society defines it as: "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education" (2015).	Thank you for your comment. This term is defined in the glossary.

447	TALEB Mohammed Sghir	3	27	744	27	744	In addition to Kenya and Tanzania add also Uganda	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
448	Kathryn Phillips (on behalf of UNEP - WCMC)	3	27	745	27	745	Rather dated reference when so many more recent/relevant are available	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
449	Pilling, Dafydd	3	27	751	27	752	"Steven, Morrison, and Castley (2015) present a quantitative study of global avitourism research." Given this introduction, I would have expected some indication as to what these authors concluded.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
450	Pilling, Dafydd	3	27	752	27		Where does this list come from? (It only takes typing "birdwatching holidays [country x]" into Google to be able to "document" plenty of additional countries.)	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
451	Sousa Pinto, Isabel	3	27	755			obvious additions would be coral reef - a lot of data. Maybe time for overall assessment here of value and impacts both on people - perception of nature - but also on the reefs. This also goes for whale/dolphin watch that is presented as a case study but could be assessed as an activity at global and regional level: impacts on jobs	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 in our considerably revised section, and not crucial to our critical evaluation, we have chosen not to include it here.
452	Kenward, Robert	3	27	756	27	765	Ecotourism is a way to conserve wildlife through use, but does it need mention 2x as a career choice for ecologists?	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
453	Meera Anna Oommen	3	27	756	27	765	Not sure why ecotourism as a career choice for ecologists and conservationists is mentioned here <u>at all</u> . Why is this relevant?	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
454	Skern-Mauritzen, Mette	3	27	756	27	765	Remove the following statements: 'Ecotourism can be a challenging and complex career choice for scientists (ecologist, 756 conservationist), but it is one with immediate real-world consequences. Ecologists aim to measure 757 and minimize tourism-based impacts as well as to strengthen existing conservation practices', and 'Ecotourism can make	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
455	Kathryn Phillips (on behalf of UNEP - WCMC)	3	27	756	27	765	Not sure why the para delves into a discussion about career choices for ecologists/conservationists? Sentence starting on 760 is particularly weak 9starts with 'but0 and makes a sweepingly vague statement about species survival. The para lacks references to support other bold statements such as sentence ending on line 763 and the follow ing	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
456	Kathryn Phillips (on behalf of UNEP - WCMC)	3	27	756	27	757	crossed out - ecotourism can be a challenging and complex career choice for scientists (ecologist, conservationist), but it is one with immediate world consequences.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
457	Cooney, Rosie	3	27	756	27	765	Really unclear why this para is talking about scientists' career choices! And how does ecotourism differ from viewing tourism? Also, this statement is rather ludicrous "But Buckley (2019) argues that most species still survive, and some populations are increasing. In numerous cases, parks agencies, conservation NGOs, international agreements	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
458	Pilling, Dafydd	3	27	756	27	756	Reads a bit strangely. This hardly seems the place to offer careers advice.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
459	Kathryn Phillips (on behalf of UNEP - WCMC)	3	27	758	27	758	A reference example of attempts to reduce negative impacts and increase conservation outcomes for viewed species could be ...	Thank you for this suggestion to add an example. We have added several case studies of impacts that were identified as problematic and the solutions that were posed to remove/minimise potential harm.
460	Kathryn Phillips (on behalf of UNEP - WCMC)	3	27	758	27	763	This lumps the impacts of ecotourism together with everything else. Provide published evidence of ecotourism impacts here. Whether it is a good option for ecologists or not is of no importance to an IPBES report.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.

461	Fergusson, Richard	3	27	760	27	768	contra Buckley 2019 - consider the wider resource use of ecotourism - water and carbon footprint	Thank you for this comment. We have considerably revised this section and the ecological footprint of tourists has been mentioned.
462	Serge Michel Garcia	3	27	764	27	765	Yes, but when ecotourism takes over extractive use, the revenues tend to accrue to foreign tourist companies and to money holders in the capital, far way from the areas and communities concerned. The wealth generated by the world resources is "deflected" away from the original users with no small impact on livelihoods. So, the natura of the	Thank you for this suggestion. We agree that the context in which tourism takes place is essential when considering it's sustainability. We have considerably revised this section, including 'leakage' of costs outside of the local economy when local services are not utilised.
463	Kathryn Phillips (on behalf of UNEP - WCMC)	3	27	764	27	765	Delete: Ecotourism can make critical contributions to conservation, which is surely a worthy career choice for any ecologist (Buckley, 2019).	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
464	Oldfield, Thomasina	3	27	765			Not sure what discussion of careers has in this assessment.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
465	IPSI Secretariat, United Nations University (UNU-IAS)	3	28	766	28	767	Ecotourism has also been used as a tool to revitalize livelihoods for the balance of nature and people in "satoyama" like landscapes and is one of the major solutions proposed by multi-stakeholder networks (ref Kozar et al 2019 - https://doi.org/10.1016/j.cosust.2019.09.002)	Thank you for your comment. Please see the definition of "ecotourism" in the glossary. We have addressed tourism as benefit for local economies and conservation in the revised text.
466	Kathryn Phillips (on behalf of UNEP - WCMC)	3	28	767	28	768	Weak sentence, makes little sense and seems oddly placed.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
467	Kathryn Phillips (on behalf of UNEP - WCMC)	3	28	767	28	767	More of this. In this section provide information on: - the aims of ecotourism - the Theory of change behind ecotourism - Examples of ecotourism - where it has worked and where it hasn't	Thank you for your advice. We have considerably revised this section and hope you find it improved.
468	Pilling, Dafydd	3	28	769	28	769	Suggest citing the original Eshoo et al paper (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0186133).	Thank you for your comment. The correct reference has now been used.
469	Kenward, Robert	3	29	769	29	770	In Box 3.3, the Keynes-Kahn Multiplier needs to be defined; it is strictly about government spending.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
470	Serge Michel Garcia	3	29	769	30	770	Box 3.3: benefits to local communities occur only when these communities are empowered and directly involved in providing tourisi services. This does not happen "naturally"	Thanks for this comment, and we fully agree with your view. This idea was retained and was incorporated in the SOD.
471	Jia, Gensuo	3	30	771	44	1155	Section 3.3.2 describes the practices through which humans interact with wild species according to four overarching categories: gathering, fishing, hunting, and logging. But the current wording of the part is confusing because it mixes elements of a very different nature. We suggest that the part be improved as follows: 1. please reorganize the	Thank you for this comment. This was improved in the Second Order Draft.
472	Cooney, Rosie	3	30	771	30	771	Aren't we going back to material presented at the beginning of the chapter here?	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
473	Kathryn Phillips (on behalf of UNEP - WCMC)	3	30	774	30	775	"These direct uses of wild species are the foundation for human-774 environment interaction and sustain human life and society. " Take out these kind of sentences. They don't provide any information/evidence.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
474	Kathryn Phillips (on behalf of UNEP - WCMC)	3	30	775	30	777	"Broadly speaking, in the context of 775 this assessment extractive practices are all forms of harvesting biological materials from wild 776 sources." This sentence repeats the first sentence. A lot of text can be cut without losing meaning	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft.

475	Pilling, Dafydd	3	30	780	30	780	Two types of use that seem to be missing from this draft are the use of wild plants via livestock grazing and the use of wild aquatic organisms via non-fed aquaculture.	Thank you for this comment. This was improved in the Second Order Draft.
476	Butchart, Stuart	3	30	780			This list seems to omit the trapping of wild birds, which involves millions of individuals each year, taken for local use and national and international trade for pets and other uses. See references recommended above.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
477	Adeline Lerambert	3	30	784	30	788	The factors listed omit impacts of extraction on animal societies and cultures, the conservation significance of which, particularly in relation to highly social species such as cetaceans, primates and elephants, can be highly significant. See for example Brakes et al. 2019. Animal cultures matter for conservation. Science DOI: 10.1126/science.aaw3557	Thank you for this comment. This was improved in the Second Order Draft.
478	Kathryn Phillips (on behalf of UNEP - WCMC)	3	30	784	30	788	And adaptations to the rate of extraction based on management feedback	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
479	Kathryn Phillips (on behalf of UNEP - WCMC)	3	30	784	30	784	Not true - depends on the species. Rephrase: The sustainability of the harvest of an organism is dependent on a range of factors.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
480	Kathryn Phillips (on behalf of UNEP - WCMC)	3	30	787	30	787	There is a lot published on this. You are confusing sustainable harvest rates (i.e. the number of individuals of a population that can be sustainably extracted), which is about numbers extracted, with drivers of unsustainable harvest rates, which are things like hunting methods and market access. Read anything by EJ Milner-Gulland, or John Robinson.	Thanks for suggestion, the subsection has been thoroughly revised.
481	Kathryn Phillips (on behalf of UNEP - WCMC)	3	30	789	30	793	Delete all. This doesn't provide any information.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
482	Pilling, Dafydd	3	30	789	30	793	Note that this point (which is taken from The State of the World's Biodiversity for Food and Agriculture [FAO,2019] and not either of the 2018 references [SOFO, SOFIA]) is a general statement about all technologies used in the food and agriculture sector and not specifically about those used in extractive practices of the kind discussed in this	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
483	Oldfield, Thomasina	3	30	796	31	804	why does this need differentiating between technique 1 and 2?	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
484	Damayanti, Eilyn	3	31	797	31	799	Add medicinal plants (in whole, e.g. herbs, or in part e.g. fruits, leaves, etc.)	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft.
485	Fisher, Sue	3	30	800	31	810	For both technique 2 and 3 please consider the non-sustainable bycatch of non-target species including fish, turtles, seabirds and cetaceans	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
486	Serge Michel Garcia	3	31	800	31	800	Dynamite (and poisons) are not "machines". Perhaps can we use the term "tools" or "instruments" or "means"	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
487	Damayanti, Eilyn	3	31	802	31	804	Add knives (various kinds of knife from various ethnicities/IPLCs)	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft.
488	Stiles, Daniel	3	31	803			I would not term dynamite 'small scale machine'. Whole coral reef ecosystems have been devastated by dynamite fishing, e.g. parts of East Africa and Philippines coast. Firearms could be classified as small scale, but their effects lumped together have obviously been huge. The bow and arrows should be added as well.	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft.

489	Kathryn Phillips (on behalf of UNEP - WCMC)	3	31	803	31	803	The main two hunting techniques are missing here - snares and guns	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
490	Fisher, Sue	3	31	808	31	808	And in commercial whaling. At the peak of commercial whaling in the 1960s, tens of thousands of whales were killed by factory fleets every year. In Japan a factory ship that processes and freezes whale meat at sea is still used alongside catcher boats, allowing hundreds of whales to be killed and processed (cut, frozen and vacuum sealed) ready for	Thank you for your comment. We included a section dedicated to whaling.
491	CAMARENA, Maria	3	31	811	31	818	"Gathering" should also acknowledge the partial harvest of plant and live animals. Particularly the non-lethal harvest practices, for example of bark of tree species for medicinal purposes (e.g. Prunus africana); similar examples for non-extractive "gathering" cases for fauna should be reflected (e.g. vicuña fiber, just to put an example).	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft.
492	Newing, Helen	3	31	811	35	914	The initial paragraph (lines 813-818) should include collection of other plant parts: foliage, flowers, bark, saps and resins, roots. The statement on lines 825-826 that exploitation of NTFPs often involves systematic removal of biological units should be reconsidered. In relation to most of the above plant parts it usually involves removal of only a part of the	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft. Please refer to Chapter 1's definition of "gathering" for more information.
493	Minter, David	3	31	813	31	814	change to "Gathering includes all forms of collecting such as harvest of live animals and whole or parts of algae, fungi and plants."	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
494	Minter, David	3	31	814	31	815	what is the difference between active collecting and passive collecting? Collecting a mushroom from the forest floor is just as active as collecting berries.	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft. Collecting is now under the practice "Gathering" as defined in Chapter 1.
495	Pilling, Dafydd	3	31	819	31	820	Where does this "definition" come from? It does not seem to be in the document cited.	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft. Please refer to Chapter 1's definition of "gathering" for more information.
496	Pilling, Dafydd	3	31	821	31	821	In the report cited this statement refers to non-wood forest products not to NTFPs	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
497	Pilling, Dafydd	3	31	823	31	823	As noted in the text above, NTFPs are not necessarily organisms they can be parts of organisms	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
498	Kathryn Phillips (on behalf of UNEP - WCMC)	3	31	825	32	835	There is a wealth of literature on the importance and use of NTFPs by local communities, and the impact of market access, and land use and tenure policies on this use (see Ostrom). This paragraph is overly simplistic and does not properly reflect our current knowledge on the subject. Refer to a social scientist.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
499	Germany	3	31	827	31	829	MAP is not introduced as an acronym. What does it mean? Please make sure that acronyms like NTFP or MAP are included in the list of acronyms.	Thanks for comments. The list of acronyms has been revised.
500	Kathryn Phillips (on behalf of UNEP - WCMC)	3	31	828	31	828	usually food and income, also for traditional medicine. Primary health care is not a good descriptor.	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft.
501	Kathryn Phillips (on behalf of UNEP - WCMC)	3	31	829	31		This is a very simple description of local use. Where local communities are far from market access, NTFP collection is still for local use. However, market access, land use and tenure policies, and an influx of non-community users, means that NTFP gathering is rarely this simple. This section requires a much more thorough review of the literature on	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed. The author acknowledges NTFPs' use.
502	Stiles, Daniel	3	32	836	32	841	And Stiles, D. (1994). Tribals and Trade: a strategy for cultural and ecological survival. Ambio 23(2):106-111. https://www.academia.edu/5770129/Tribals_and_Trade	Thank you for your comments. This section was thoroughly and improved in the Second Order Draft. The trade as a driver has been considered in Chapter 4.

503	Kathryn Phillips (on behalf of UNEP - WCMC)	3	32	836	32	841	Description of plant trade seems out of place here, would perhaps more logically fit in Section 3.3.1.3	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft.
504	Pilling, Dafydd	3	32	842	32	843	Regarding the placeholder: I get the impression that this is an issue not just in this section but more widely in the document, i.e. many sections don't provide a comprehensive a global overview unless these are available "off the self" in other publications such as FAO's SOFIA reports or seem to provide regional balance in the analysis presented or the	Thanks for comment, the subsection has been rewritten.
505	CAMARENA, Maria	3	32	844	32	844	Consider changing products for specimens (sensu CITES, see comment in previous row).	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft. Please refer to Chapter 1's definition of "gathering" for more information.
506	Kathryn Phillips (on behalf of UNEP - WCMC)	3	32	844	32	863	Rather overly simplistic. May be important to recognise the many places where both men and women participate in mixed-sex hunting and gathering activities, such as the ByAka groups of central Congo/CAR/Gabon etc ... where hunting for meat and gathering of other NTFPs occurs at the same time opportunistically and often in large social	Thank you for your comment. The initial reference was Ertug, but she only refers to Turkey. This was revised in the Second Order Draft.
507	Sousa Pinto, Isabel	3	32	847	32	861	Very interesting information but is this still the case today? References from 15 years ago and things may have changed	Thank you for this reference. This was taken into account in the Second Order Draft.
508	Kathryn Phillips (on behalf of UNEP - WCMC)	3	32	850	32	853	Oddly phrased sentence re' 'women exploring perennials'	Thank you for this comment. This was reformulated in the Second Order Draft.
509	Finnish national IPBES panel (Oksanen, Elina)	3	32	857	32	859	In Scandinavian countries commercial berry picking is done by Asian people (mostly men). The whole business is organized by private companies. This type of gathering is a new phenomenon, and the ethic aspects has been questioned. Ecological impacts of intensive gathering remains unclear.	Thank you for this suggestion. We have chosen not to include it in the assessment, as you have not provided any supporting evidence.
510	Kathryn Phillips (on behalf of UNEP - WCMC)	3	32	857	32	857	Huge over-generalisation - changes between countries and communities	Thank you for this comment. This was reformulated in the Second Order Draft.
511	Sousa Pinto, Isabel	3	32	860	32	861	is this still done? The reference is from more than 20 years ago	Thank you for this comment. This was improved in the Second Order Draft.
512	Germany	3	32	864	32	867	An interesting example could be the attempted shift from gathering to cultivation of cloudberry (e.g. Rancourt et al. 2009). Rancourt, G.T., Rochefort, L., Lapointe, L., 2009. Cloudberry cultivation in cutover peatlands: hydrological and soil physical impacts on the growth	Thanks for comments, the cases has been included in the section.
513	Kathryn Phillips (on behalf of UNEP - WCMC)	3	32	868	32	869	Bit of a sweeping sentence unsupported by refs. In some cases IK and Ps can be unsustainable, or become that way due to other external factors. The sentence might read more accurately by adding ...'linked with THE SUSTAINABILITY OF USE' rather than assuming sustainable use?	Thank you for this comment. This was reformulated and improved in the Second Order Draft.
514	Demissew Sebsebe	3	31	871			Girardinia diversifolia (Link) Friis. Is this important to have the author of the plant? If it is done here, it should be followed in other examples with specific names.	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft. Author's names were deleted.
515	TALEB Mohammed Sghir	3	33	871	33	872	Box 3.4: Scientific name of giant nettle must be in italic	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft.
516	Kathryn Phillips (on behalf of UNEP - WCMC)	3	33	873	34	914	This section is particularly uninformative about extraction practices and sustainability. It appears to have become an extension of the former section on 'what is used' - rather than how used items are extracted. Certainly there is no need to describe the table 3.5 in text detail as is, if additional relevant figures are available they would be much more useful	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft.

517	Damayanti, Eilyn	3	33	874	34	878	Table 3.3 shows 7 columns, this means 7 categories, not six as mentioned?	Thank you for this comment, the table has been revised.
518	Kathryn Phillips (on behalf of UNEP - WCMC)	3	33	874	33	877	Box 3.3 - isn't it 7 categories?	Thank you for this comment. This was reformulated and improved in the Second Order Draft.
519	Kathryn Phillips (on behalf of UNEP - WCMC)	3	33	878	33	878	What is MMA?	Thanks for your comment. Ministerio de Meio Ambiente (Ministry of Environment) but it is no longer relevant as the statement has been removed.
520	Demissew Sebsebe	3	34	880			If one adds the author's name to Girardinia diversifolia as indicated above, one should do the same for all species between lines 880-886.	Thank you for this comment. This was reformulated and improved in the Second Order Draft.
521	Sousa Pinto, Isabel	3	34	882	32	888	Managed systems means that these plants are cultivated?	Thank you for your comment. Managed systems means that plants are neither wild nor cultivated, but protected and cared for.
522	Sousa Pinto, Isabel	3	34	890			1 thousand million tons - from the figures (figure3.5) is difficult to see how this figure was calculated	Thanks for this suggested change but it is no longer relevant as the figure has been removed.
523	Adeline Lerambert	3	35	909	35	909	Check and clarify meaning of 'biomass' used here (and indeed generally throughout the assessment); 'biomass' is commonly used to mean 'the total quantity or weight of organisms in a given area or volume'; given the nature of this work, it would be wise to clarify if/why the term is used here to mean 'organic matter used as a fuel'.	Thank you for your suggestion. The text has been revised. This term is defined in the glossary.
524	Oldfield, Thomasina	3	35	909		914	needs rewording.	Thank you for the suggested change. This was taken into account in the Second Order Draft.
525	Pilling, Dafydd	3	35	909	35	910	The sentence does not seem to make sense. Is it meant to mean that collection is increasing in some places and decreasing in others?	Thank you for the suggested change. This was taken into account in the Second Order Draft.
526	Saw Leng Guan	3	35	915	35	915	This whole section lacks Asian example, e.g. there could be some reference to SSF and its importance to the livelihood of communities in the Mekong River.	Thank you for your comment. We agree and we expanded this section on SSF to include more examples and drafted a large table with cases of all over the world, including Asia. However, we only mention in detail in the text those SSF systems that are sustainable, so we can
527	Jungwiwattanaporn, Megan	3	35	915	39	1047	Fishing is listed as an extractive practice. Although this section lists a couple FAO statistics, overall the section is focused on inland small scale fisheries. According to the Ocean Health Index about 50% of fish eaten by humans is caught by artisanal fisheries and 50% is caught by large scale fisheries (with additional fish caught for fishmeal and oils). Large	Thank you for your comment. The structure was revised in the Second Order Draft and incorporate material about the marine large scale fisheries. We mention that co-management has contributed to sustainability of small-scale fisheries and managed stocks seem to be
528	López-Castro, Melania	3	35	915	39	1047	The beginning of this section is a little confusing. It starts talking about freshwater fisheries and then switches to marine fisheries. However the generalizations made on freshwater fisheries not necessarily apply to marine fisheries. Please review. Also please see Cuevas, Eduardo, et al. "Identification of potential sea turtle bycatch hotspots using a spatially	Thank you for your comment. The structure was revised in the Second Order Draft by separating small scale fisheries and large scale fisheries and also commenting separately on general features of coastal and freshwater fisheries. Thanks for indicating these interesting studies
529	Kathryn Phillips (on behalf of UNEP - WCMC)	3	35	915	39	1047	My feelings that is has a lot of interesting material in the section which eventually starts to discuss issues of sustainability, extraction and management, but would suggest streamlining and re-framing around this point. Seems a disproportionately detailed section vs other extractive technique section categories. - completely agree (CMC)	Thank you for this comment. This was improved in the Second Order Draft.
530	Adeline Lerambert	3	35	917	35	917	Remove the word 'sustainable' - many fishing enterprises are not sustainable	Thank you for your comment. We agree with it, but it is no longer relevant as the statement has been removed.

531	Baker, Michael	3	35	917	35		Is this statement contrary to 6.5.1 which implies that generally global fisheries are unsustainable?	Thank you for your comment. We agree with it, but it is no longer relevant as the statement has been removed.
532	Bélanger, Julie	3	35	917	35	917	About fishing being the most widespread sustainable use of wildlife... At this point in this chapter the distinction between a use and a sustainable use seem not to have been made. In previous sections the description of practices did not make reference to sustainability of the use.	Thank you for your comment. The new version of the chapter identify more clearly, grounded by references, which uses are sustainable and which are not.
533	Fokam, Eric	3	35	917	35	918	consider using "Fishing is one of the most widespread least unsustainable uses of wildlife in freshwater ecosystems...". This is especially justified by the lines that follow line 918!	Thank you for your comment. We agree with it, but it is no longer relevant as the statement has been removed.
534	Kathryn Phillips (on behalf of UNEP - WCMC)	3	35	917	35	918	Seems an odd sentence to start with, placing all fishing activities as sustainable, when the evidence following generally does not support this? It would require a reference if it has been stated as fact. The start of line 960 may make a more appropriate alternative but similar statement, but also needs referencing.	Thank you for your comment. We now had improved and expanded this section, separating large scale and small-scale fisheries. We included some introduction stating the relevance of these fisheries to food production with references and then we described statistics and
535	Kathryn Phillips (on behalf of UNEP - WCMC)	3	35	917	35	917	Suggest the word "sustainable" is removed from the first sentence referred to above	Thank you for your comment. We agree with it, but it is no longer relevant as the statement has been removed.
536	Pilling, Dafydd	3	35	917	35	924	The way this is written is potentially confusing. The first paragraph (lines 917 to 920) refers to freshwater fisheries. The figures quoted in the next paragraph refer to marine fisheries.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
537	Damayanti, Ellyn	3	35	920	35	920	3.3.2.2.1 --> mistyping?	Thank you for this comment. This was revised the Second Order Draft.
538	Bélanger, Julie	3	35	921	35	921	Suggest to delete 'An estimate made by the FAO' for simplicity (the sentence already indicate that these are estimates and the reference is provided at the end.	Thank you for this comment. This was revised the Second Order Draft.
539	Demissew Sebsebe	3	35	921	35	924	Change percent to % to be consistent ; this should be folowed throughout the chapter	Thank you for this comment. This was taken into account the Second Order Draft.
540	Doering, Ralf	3	35	921	35	924	Is this for freshwater stocks? This whole chapter is not clearly structured and mixes freshwater with marine capture fisheries without explanation.	Thank your for your comment. We now better structured the whole section by separating large and small-scale fisheries and within SSF mentioning examples of coastal and freshwater, clearly identified.
541	Doering, Ralf	3	36	939	36	959	Here it is necessary to better distinguish between countries, regions and fishing fleets. Overexploitation and use of fishing practices which have negative effects on bottom habitats are widespread problems in 'industrialized' fisheries in the Global North and partly in the Global South. Using poison or explosives is a problem of tropical fisheries as fish is not	Thank you for your comment. Your comment was addressed in chapter 4.
542	Pilling, Dafydd	3	36	940	36	941	The same point (about 90 percent of the fisheries workforce) seems to be made in the preceding paragraph	Thank you for this comment. This was revised in the Second Order Draft.
543	Pilling, Dafydd	3	36	953	36	953	References for these "reports" ?	Thank you for this comment. This was revised in the Second Order Draft.
544	Skern-Mauritzen, Mette	3	36	953	36	959	Need references. Also include other types of fisheries such as explosives. Also, not easy to understand whether this section refers to small scale fisheries or fisheries in general.	Thank you for this comment. This was improved in the Second Order Draft.

545	Baker, Michael	3	36	953	36			Thank you for your comment. This assessment focuses on the use of wild species. Therefore, the attempts to marine biodiversity through human practices is not fully covered here, that was the case in the IPBES global assessment on Biodiversity and Ecosystem Services.
546	Skern-Mauritzen, Mette	3	35	960	39	1047	953 Consider including the use of explosives. I find that section 3.3.2.2.2. Fishing have a few shortcomings; 1) for small scaled fisheries often on data poor stocks; there is a range of approaches developed over the past decades to address sustainable yield using life history theory (ref papers by e.g. Jason Cope, NOAA). 2) There is a vast literature on large-scale fisheries that need to be	Thank you for your comment. We expanded this section to include more examples and a review on the literature. We still comment on data poor small-scale fisheries (SSF), as most of SSF in middle and lower income countries, as well as freshwater SSF, would fall into this
547	Pilling, Dafydd	3	36	960	37	967		Thank you for your comment. We agree with it, but it is no longer relevant as the statement has been removed.
548	Doering, Ralf	3	37	964	37	975	Fisheries management by SSF in the past was generally sustainable or the communities would not have survived. It was often the destruction of local or regional institutions which led to overfishing (e.g. one persons of a coastal community was given the exclusive rights to fish from the government or the community was forced to deliver fish to a processing	Thanks for these interesting comments. These issues are relevant, but may be the influences of traditional tenure systems and its disruption by the economic system of selling fishing quotas to foreign nations will fit better in Chapter 4 (social and economic drivers) or
549	Fisher, Sue	3	37	964	37	964	Please explicitly refer to bycatch of non-target species and habitat degradation (eg bottom trawling) as an example of ecological damage	Thank you for your comment. We agree that these would indeed be examples of fishing impacts, but the Second order Draft focus on sustainable examples, not addressing much the impacts, as these were addressed in the Global IPBES assessment.
550	Stiles, Daniel	3	39	1048	43	1121	This section gives an extremely poor overview of hunting. It is poorly organized and omits any discussion of how sustainable hunting is carried out in parts of Africa, contributing millions of \$\$\$ to millions of community members. See https://docs.wixstatic.com/uqd/87ac64_8bb0f450258f487dac71f3b7a6e82	Thank you for this comment. This was taken into account the Second Order Draft.
551	White, Harold	3	39	1048	43	1121	Same comments as above. There should be some discussion about the use of regulated legal trapping and hunting in North America for the sustainable harvest of many wildlife species for food and for conservation.	Thank you for this comment. This was taken into account the Second Order Draft.
552	Adeline Lerambert	3	39	1048	42	1118	Section on hunting seems under-developed - expand more on levels and types of hunting in tropical forests, in particular (Congo and Amazon Basins); and the drivers of hunting - see papers by Fa, Coad, Arcus Foundation, etc.	Thank you for this comment. This was improved in the Second Order Draft.
553	Adeline Lerambert	3	39	1048	40	1095	This section on hunting focusses almost entirely on N America/European impacts, and contains no examples or data from Africa in particular where recreational hunting has had devastating impacts on many species	Thank you for this comment. This was improved in the Second Order Draft.
554	Kathryn Phillips (on behalf of UNEP - WCMC)	3	39	1050	39	1050	Reference? Who defines it as this?	Thank you for this comment. This was taken into account the Second Order Draft.
555	López-Castro, Melania	3	39	1050	39	1057	Although examples are appreciated, the way they are written disconnects them from the main idea. I recommend removing them (lines 1053 - 1056).	Thank you for this comment. This was taken into account in the Second Order Draft.
556	Pilling, Dafydd	3	39	1050	39	1050	Defined by whom?	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
557	Pilling, Dafydd	3	39	1050	39	1075	The structure here is quite confusing. The general introduction is followed by a sudden shift to a focus on tropical forests, then it is back to a general statement about the objectives of hunting and then comes detailed findings on trends from a particular study from a particular region.	Thank you for this comment. This was improved in the Second Order Draft.
558	Stiles, Daniel	3	39	1050	39	1057	By this definition of 'hunting', live capture for the pet trade and zoos would be included, so something should be written on this. Social media selling of birds is enormous.	Thank you for this comment. This was improved in the Second Order Draft.

559	Adeline Lerambert	3	39	1052	39	1052	Trophies often include heads or whole bodies	Thank you for this comment. This was taken into account in the Second Order Draft.
560	Stiles, Daniel	3	39	1052			The single most common trophy is probably the mounted head with horns/antlers	Thank you for this comment. This was improved in the Second Order Draft.
561	Kathryn Phillips (on behalf of UNEP - WCMC)	3	39	1054	39	1054	Why the focus on birds here? There are lots of techniques, and they differ by species	Thank you for this comment. This was taken into account the Second Order Draft.
562	Pilling, Dafydd	3	39	1054	39	1056	These examples come across as a bit "random". And presumably references should be provided	Thank you for this comment. This was taken into account in the Second Order Draft.
563	Kathryn Phillips (on behalf of UNEP - WCMC)	3	39	1058	39	1059	Reference provided in discussion of increase in hunting in last few decades is fro a previous decade ..surely a more recent ref available with some greater detail on the scale of increase?	Thank you for this comment. This was taken into account the Second Order Draft.
564	Kathryn Phillips (on behalf of UNEP - WCMC)	3	39	1058	39	1060	Starts with talking about hunting wildlife then switches to the term bush meat - elsewhere the term wild meat is used. Need to chose a term and define parameters?	Thank you for this comment. This was taken into account the Second Order Draft.
565	Stiles, Daniel	3	39	1058	39	1064	Why restrict to tropical forests? Humans have been hunting for at least a million years, according to the archaeological record. It began in the savannas of Africa, not the tropical forests. This paragraph needs upgrading and use of proper English.	Thank you for this comment. This was improved in the Second Order Draft.
566	Kathryn Phillips (on behalf of UNEP - WCMC)	3	39	1059	39	1059	What has increased? Hunting? Ofttakes?	Thank you for this comment. This was taken into account the Second Order Draft.
567	Kathryn Phillips (on behalf of UNEP - WCMC)	3	39	1060	39	1060	urban consumers	Thank you for this comment. This was improved in the Second Order Draft.
568	Adeline Lerambert	3	39	1062	39	1064	This is the only mention of the ramifications of hunting on the ecosystem. Suggest to include an analysis of the impacts of hunting on the provision and maintenance of ecosystem services for global health.	Thank you for this comment. This was improved in the Second Order Draft.
569	Kathryn Phillips (on behalf of UNEP - WCMC)	3	39	1062	39		This makes no sense. Just 'overhunting results in...'	Thank you for this comment. This was improved in the Second Order Draft.
570	Kathryn Phillips (on behalf of UNEP - WCMC)	3	39	1062	39	1062	no evidence for it having a unique taste. It is often preferred, but preference is a difficult concept - its can often be about culture and what you are used to eating rather than taste. Stick to evidence throughout.	Thank you for this comment. This was improved in the Second Order Draft.
571	Erb, John	3	39	1063	39	1063	What does "where overhunting is practiced" mean? The only way this makes sense to me is if it refers to intentional reduction of an overabundant species. Otherwise, overhunting is not "practiced", it occurs due to lack of knowledge/monitoring/enforcement/etc. Unless your intent here was to refer to intentional reduction of an overabundant	Thank you for this comment. This was improved in the Second Order Draft.
572	Erb, John	3	39	1065	39	1075hunting AND TRAPPING..... I would also add "clothing" to the list of uses, and also don't like the narrow inclusion of "skins" in the "trophies" section. Many skins are used for clothing and other purposes. Also,	Thank you for this comment. This was taken into account the Second Order Draft.

573	Germany	3	39	1065	39	1075	Indicators in this para need to be explained.	Thank you for this comment. This was taken into account the Second Order Draft.
574	Stiles, Daniel	3	39	1065	39	1066	Repeats what was written in 1051-1052.	Thank you for this comment. This was improved in the Second Order Draft.
575	Stiles, Daniel	3	39	1065	39	1075	One paper referring to a few selected case studies of bushmeat hunting in African tropical forests should not be presented as representing all types of hunting everywhere in the world.	Thank you for this comment. This was improved in the Second Order Draft.
576	Stiles, Daniel	3	39	1065	39	1075	One paper referring to a few selected case studies of bushmeat hunting in African tropical forests should not be presented as representing all types of hunting everywhere in the world.	Thank you for this comment. This was improved in the Second Order Draft.
577	Kathryn Phillips (on behalf of UNEP - WCMC)	3	39	1066	39		You just said this in the first paragraph	Thank you for this comment. This was improved in the Second Order Draft.
578	Kathryn Phillips (on behalf of UNEP - WCMC)	3	39	1069	39		This switches to the impact of overhunting without a subheading or segway. Work out what the main elements about hunting are you want to cover, write out the paragraph headings, and then fill out the text. This way you won't jump from topic to topic within the same paragraph.	Thank you for this comment. This was taken into account the Second Order Draft.
579	Germany	3	40	1076	40	1076	Figure 3.6: Please explain the shades of grey used in the figure.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
580	López-Castro, Melania	3	40	1077	41	1079	More explanation is needed to describe the graphs in order to understand what the reader is looking at.	Thanks for this suggested change but it is no longer relevant as the figure has been removed.
581	Stiles, Daniel	3	40	1077			Where? What do solid black and grey circles represent? Presumably birds and mammals respectively. What is the meaning and why even single out this example?	Thanks for this suggested change but it is no longer relevant as the figure has been removed.
582	Germany	3	41	1078	41	1078	Figure 3.7 needs further information on what kind of species/ taxonomic group is illustrated, either as an addition next to the individual graphs, in a legend or in the description.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
583	Adeline Lerambert	3	41	1080	42	1095	This paragraph is highly selective and biased, and should include reference to serious declines in many species across high- and middle-income countries, such as migratory birds and songbirds in Europe, which in many cases are subjected to massive recreational hunting pressure (among other threats). See for example	Thank you for this comment. This was improved in the Second Order Draft.
584	Cooney, Rosie	3	41	1080	41	1081	Surely trophy hunting is a subset of recreational hunting, so the statement that it is now mainly recreational doesn't make sense?	Thank you for this comment. This was improved in the Second Order Draft.
585	Erb, John	3	41	1080	41	1083	I do not like the implication that hunting in high and middle-income countries is mostly "recreational". That term is inaccurate, and you later point out there are "mixed motivations", which I agree with. Even in these countries, hunting motivations are rarely just "recreational", but include a whole list of motivations, including cultural/tradition, time with	Thank you for this comment. This was improved in the Second Order Draft.
586	Stiles, Daniel	3	41	1081			Lynx, red deer (white-tailed deer much more important in North America) and wild boar are not considered as large game by hunters. This seems to be referring to Europe.	Thank you for this comment. This was improved in the Second Order Draft.

587	Adeline Lerambert	3	41	1082	41	1083	The figure cited is likely well out of date.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
588	Fokam, Eric	3	41	1082	41	1083	reference cited is quite old, or the statement needs rephrasing to reflect lapse in time.	Thank you for this comment. This was improved in the Second Order Draft.
589	Stiles, Daniel	3	41	1083	41	1092	This seems to be saying that with increased culling (incorrect term here) ungulate population densities increased. Ungulates a winner in urban areas? Doesn't make sense.	Thank you for this comment. This was improved in the Second Order Draft.
590	Kathryn Phillips (on behalf of UNEP - WCMC)	3	41	1083	41	1083	Not sure comment on motivations is necessary unless discussed...	Thank you for your comment. We cannot add additional text to the chapter due to word length restrictions.
591	Pilling, Dafydd	3	41	1085	41	1085	The 1999 reference is pretty old for a description of current status and trends. Note that there seems to be a similar Flather et al document from 2013 (Flather, Curtis H.; Knowles, Michael S.; Jones, Martin F.; and Schilli, Carol, "Wildlife Population and Harvest Trends in the United States A Technical Document Supporting the Forest Service 2010 RPA	Thank you for this comment. This was improved in the Second Order Draft.
592	Pilling, Dafydd	3	41	1086	42	1090	It is unclear what this material is intended to convey to readers. The source is also unclear. The statement about foxes etc. seems to be about the impact of habitat changes in general on population sizes rather than specifically about use via hunting or the impacts of such use. In the case of urban areas, it specifically notes that hunting does not occur. In	Thank you for this comment. This was improved in the Second Order Draft.
593	Kathryn Phillips (on behalf of UNEP - WCMC)	3	41	1086	41	1092	Contains 5 sentences describing species population changes without references ... Sentence on 1088 starts with 'probably', and follows language re 'species being 'the winners in the man-made landscape' etc ... not clear who 'they' are in this sentence either but not great scientific writing.	Thank you for this comment. This was improved in the Second Order Draft.
594	Kathryn Phillips (on behalf of UNEP - WCMC)	3	41	1090	41	1090	hunting bags?	Thank you for this comment. This was taken into account the Second Order Draft.
595	CAMARENA, Maria	3	42	1100	42	1118	There is inconsistency in referring to the terms bushmeat and wild meat. Make sure the term is consistently referred to as "wild meat". This applies to other cases through the assessment.	Thank you for this comment. This was improved in the Second Order Draft.
596	Fisher, Sue	3	42	1100	42	1103	Note that cetaceans are also hunted (often illegally) for use as bait in other fisheries. Including India, Pakistan and Sri Lanka (Porter L and Lai HY (2017) Marine Mammals in Asian Societies; Trends in Consumption, Bait, and Traditional Use. Front. Mar. Sci. 4:47. doi: 10.3389/fmars.2017.00047)	Thank you for this comment. This was improved in the Second Order Draft.
597	Kathryn Phillips (on behalf of UNEP - WCMC)	3	42	1100	42	1100	You have jumped from overall hunting patterns in Middle-high income countries to aquatic bush meat. These kinds of jumps makes it very hard for the reader to work out what they are reading.	Thank you for this comment. This was improved in the Second Order Draft.
598	Kathryn Phillips (on behalf of UNEP - WCMC)	3	42	1103	42	1103	Reference required.	Thank you for this comment. This was improved in the Second Order Draft.
599	Kathryn Phillips (on behalf of UNEP - WCMC)	3	42	1104	42	1110	Not clear if the references provided in this para are relevant to the same 'ecoregion' as written - not possible to check because Coad 2017 not included in the chapter references. Also don't know if discussions here and elsewhere regarding what and why are relevant, when the section is supposed to be about extraction impacts and sustainability?	Thank you for this comment. This was improved in the Second Order Draft.
600	Kathryn Phillips (on behalf of UNEP - WCMC)	3	42	1105	42	1105	What about Africa and Asia?	Thank you for this comment. This was improved in the Second Order Draft.

601	Stiles, Daniel	3	42	1106			What in the world is "zoo-therapeutic purposes" bushmeat???	Thank you for this comment. This was improved in the Second Order Draft.
602	Stiles, Daniel	3	42	1107	42	1108	Livestock die in late stages of drought, not early stages.	Thank you for this comment. This was improved in the Second Order Draft.
603	Stiles, Daniel	3	42	1109	42	1110	Term definitions would be useful, perhaps at the beginning of the Hunting section. E.g. 'trade' refers to legal exchange while 'trafficking' is illegal exchange.	Thanks for your comment.some defintitions can be found in the glossary, alongside the new version.
604	Adeline Lerambert	3	42	1111	42	1118	Also worth noting the increasing international demand for wild meat, particularly among diaspora communities. EG Chaber et al. 2010. The Scale of Illegal Meat Imprtoration from Africa to Europe via Paris. Conservation Letters 3(5), 317-321	Thank you for this comment. This was improved in the Second Order Draft.
605	Kathryn Phillips (on behalf of UNEP - WCMC)	3	42	1111	42	1112	This sentence projects speculated future increases in wild meat demand in relation to 'current' trends, but is referenced as more than 10 years ago.	Thank you for this comment. This was improved in the Second Order Draft.
606	White, Michael	3	42	1111	42	1113	Also because of migration of natural bushmeat eaters into cities.(Similary Pacific islanders ship fish to family members overseas)	Thank you for this comment. This was improved in the Second Order Draft.
607	Kathryn Phillips (on behalf of UNEP - WCMC)	3	42	1113	42	1116	Sentence offers evidence but no reference provided.	Thank you for this comment. This was improved in the Second Order Draft.
608	Bélanger, Julie	3	43	1122	43	1122	I understand the text in this section is probably a placeholder and the note indicates that it will be expanded. As in some other sections, it would be good in the text to be developed to distinguish between commercial/illegal/smallscale/traditional/etc. types of logging.	Thank you for your cmment. The various classifications suggested have been taken into consideration in the new write up. However, aspects of illegal logging will be inherently discussed across the commercial, community, smallscale and subsistence timber harvesting systems
609	Germany	3	43	1122	43	1122	The authors may wish to consider assessing the following study as well: "Influence of harvesting intensity on species and structural diversity of forests" https://freidok.uni-freiburg.de/data/16801	Thank you for this suggestion. We have chosen not to include it in the assessment, as the study did not focus on a particular harvesting practices system. This section is focusing on status and trends of wild species uses and wild species harvesting practices
610	Saw Leng Guan	3	43	1122	43	1122	This section gives a good coverage for plantation species. There is however no discussion on harvesting from natural forests and issues related to such logging. What are the trends in logging in natural forest? Are such logging practices sustainable?	Thank you for your comment. Your suggestions have been incorporated in the revised version of the section.
611	Stiles, Daniel	3	43	1122	43	1144	Why are plantation tree species being discussed? This assessment should deal with wild species in natural ecosystems.	Thank you for your comment. The sustainability of wild tree species can not be fully discussed without hinting on the potentila of timber supply from plantations. These will be discussed to a limited extent to potray the extent they relieve (or are expected to relieve) pressure from
612	Stiles, Daniel	3	43	1122	43	1144	Why are plantation tree species being discussed? This assessment should deal with wild species in natural ecosystems.	Thank you for your comment. The sustainability of wild tree species can not be fully discussed without hinting on the potentila of timber supply from plantations. These will be discussed to a limited extent to potray the extent they relieve (or are expected to relieve) pressure from
613	Özden Görücü	3	44	1122	44	1144	Illegal logging should be explained shortley all over the world and be given some figures on it	Thank you for your comment. The revised text has taken into consideration regarding illegal logging.
614	Pilling, Dafydd	3	43	1126	43	1135	Taken out of context, this statement does not make a lot of sense as readers are not informed in what sense countries "emphasize" these species. (It is as priorities for forest genetic resources conservation and management). The reference also seems to be incorrect. It should presumably be The State of the World's Forest Genetic Resources	Thank you for your comment. The section has greatly changed and the paragraph in reference has been deleted

615	CAMARENA, Maria	3	43	1134	43	1135	The sentence seems incomplete. Exotic and native in what context? For example, plantations outside of natural range States? The idea needs to be further elaborated.	Thank you for your comment. The text has greatly changed. The sentence in question has been removed.
616	Pilling, Dafydd	3	43	1136	43	1144	It is unclear why this material is here. This subsection is apparently meant to be about logging not about priorities in genetic resources management, although the two are obviously related. Note that the meaning of the first sentence has been changed so that it does not correspond to the original. Also note that the reference is again incorrect.	Thank you for your comment. The section has greatly changed and the paragraph has since been deleted
617	CAMARENA, Maria	3	43	1143	43	1144	Change "plantings" to "plantations". It is also important to make a distinction for those plantations that include non-native species in Africa. Just at a quick glance, this is the case of <i>Cedrela odorata</i> (native to the neotropics, and introduced in Africa).	Thank you for your comment. This was improved in the Second order Draft.
618	Pilling, Dafydd	3	43	1146	43	1146	As per comment above, taken out of context it is unclear in what sense these species are the "most common priority species" If the figure is to be used (again it does not seem directly relevant), the title should be made more self explanatory.	Thank you for your comment. Your suggestions have been taken into consideration. The text has also been greatly changed and the figure has been removed
619	Pilling, Dafydd	3	44	1154	44	1155	The statement about logging occurring at four times the sustainable rate gives the impression that it refers to the whole world. In fact (as indicated in the source) it refers only to Solomon Islands.	Thank you for your comment. This text has been improved and this statement was removed as it was misleading (as you have highlighted).
620	Anthony, Brandon P.	3	44	1156	67	1704	consider also using landscape unit categories delineated in Anthony & Bellinger 2007, as well as South African examples for 8 resource use categories in section 3.3.3. [Anthony, Brandon P. and Bellinger, Edward G. 2007. Importance value of landscapes, flora and fauna to Tsonga communities in the rural areas of Limpopo province, South Africa. South	Thank you for your comment. The use categories are defined in Chapter 1 and therefore this comment is out of the scope of this chapter. Where relevant, we have made references to landscapes throughout.
621	Pilling, Dafydd	3	44	1158	44	1159	This seems to be more "for what" than "how"	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
622	Fisher, Sue	3	44	1158	44	1158	Please include non-use for maximizing ecological functions as another category	Thank you for your comment. The use categories are defined in Chapter 1 and therefore this comment is out of the scope of this chapter.
623	Bélanger, Julie	3	44	1159	44	1159	By 'materials' is this referring to the text material presented in the following sections that is divided into 8 categories? Or is it the uses that are divided into 8 categories?	Thank you for your comment. The constituents of the classification "material" have been elaborated in the new text. Through out all the chapters of the assessment, "materials" is used to mean uses of wild species to construct shelter for humans or domestic animals and to
624	Kathryn Phillips (on behalf of UNEP - WCMC)	3	44	1159	44	1159	Is ' materials' the right term for the species uses being categorised? Suggest removal and re-phrase the sentence.	Thank you for your comment. However, these classifications have been determined in Chapter 1 and they are being used through out the chapter. Please revisit chapter 1 for a clear and elaborate description of the different categories of use groups.
625	Erb, John	3	45	1165	45	1165	While I don't disagree with the content of this section, nowhere did I also see reference to examples of negative effects of religion on nature. Some religions have or still do view animals as subordinate or less valuable beings to be controlled or tamed, and with little appreciation for how human population growth impacts nature. And let's not forget how	Thank you for this comment. This was improved in the Second Order Draft.
626	Minter, David	3	45	1167	45	1167	change "these plant and animals species" to "these animal, fungal and plant species" or (better) "these species"	Thank you for this comment. This was taken into account the Second Order Draft.
627	Kenward, Robert	3	45	1167	45	1170	Should these two sentences be marked as a quotation?	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
628	Kenward, Robert	3	45	1167	45	1170	Should these two sentences be marked as a quotation?	Thanks for this suggested change but it is no longer relevant as the statement has been removed.

629	Pilling, Dafydd	3	45	1167	45	1173	The flowery writing style here is a bit of a departure from the rest of the document. (I know reviewers are not meant to comments on writing style, but this is partly a matter of content.)	Thank you for this comment. This was improved in the Second Order Draft.
630	Pilling, Dafydd	3	45	1167	45	1167	What does "these" refer to?	Thank you for this comment. It should refer to "the Wild". This was improved in the Second Order Draft.
631	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1167	45	1167	Refers to 'these plant and animal species' - which? Many have become representative of relationships - but perhaps not 'each and all'.	Thank you for this comment. It should refer to "the Wild". This was improved in the Second Order Draft.
632	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1167	45	1173	I suggest removing this paragraph.	Thank you for this comment. This was deleted in the Second Order Draft.
633	Stiles, Daniel	3	45	1168	45	1171	This looks specific to one or two cultures, not a general understanding, should make that clear. Most cultures do not imagine that "god also meditated under the cool shade of the trees".	Thank you for this comment. This was reformulated in the Second Order Draft.
634	Stiles, Daniel	3	45	1168	45	1171	This looks specific to one or two cultures, not a general understanding, should make that clear. Most cultures do not imagine that "god also meditated under the cool shade of the trees".	Thank you for this comment. This was rewritten and improved in the Second Order Draft.
635	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1168	45	1169	Ref examples required?	Thank you for this comment. This was rewritten and improved in the Second Order Draft.
636	Erb, John	3	45	1169	45	1170	Is this document really going to state that "it is KNOWN that.....god meditated under trees". Delete this.	Thank you for this comment. This was deleted in the Second Order Draft.
637	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1169	45	1171	I would veer away from sentences that suggest a religious position from one religion is 'known' by all, esp when entirely irrelevant to the section. The para from 1167-1173 (but also elsewhere in the section) read like prose from ceremonial text rather than scientific discussion.	Thank you for this comment. This was rewritten and improved in the Second Order Draft.
638	López-Castro, Melania	3	45	1174	45	1176	Please review the text in these lines. It seems an idea was not concluded before the sentence "Many wild species, especially..."	Thank you for this comment. This was improved in the Second Order Draft.
639	Stiles, Daniel	3	45	1174	47	1249	I would have too many specific comments/corrections in this section, so will just comment that overall this section needs a rewrite and use of proper English.	Thank you for this comment. This was rewritten and improved in the Second Order Draft.
640	Stiles, Daniel	3	45	1174	47	1249	I would have too many specific comments/corrections in this section, so will just comment that overall this section needs a rewrite and use of proper English.	Thank you for this comment. This was rewritten and improved in the Second Order Draft.
641	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1174	45	1175	Is this sentence trying to say that wild species play a significant part in ceremonies? It is currently very unclear as written. Sustainable use is the question at hand, not an activity or outcome that results from major cultural or ceremonial activities!? Plus why only major ones? if the difference between ceremonies and culture is relevant it should be	Thank you for this comment. This was rewritten and improved in the Second Order Draft.
642	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1174	45	1187	The whole para needs re-working around a clearer objective - I'm not sure what it's supposed to be informing of.	Thank you for this comment. This was rewritten and improved in the Second Order Draft.

643	Germany	3	45	1175	45	1176	Please provide more information on the definition of "ceremony".	Thank you or your comment. Chapter 1 and the glossary address the definition of terms.
644	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1175	45	1178	Sentence needs re-writing to make any sense.	Thank you for this comment. This was rewritten and improved in the Second Order Draft.
645	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1179	45	1182	What is the intention/relevance behind this sentence - re' harm to social relations as a result of spiritual attachments on ecosystems'? Seems completely out of place and possibly inflammatory to some readers.	Thank you for this comment. This was rewritten and improved in the Second Order Draft.
646	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1179	45	1179	reference	Thank you for your comment. Please refer to the definition of 'culture' in the Glossary and in Chapter 1. This section has also been considerably revised in the Second Order Draft.
647	Damayanti, Ellyn	3	45	1186	45	1193	Too long sentence per each sentence, confusing. Please provide scientific names of the plants/wildlife as much as possible throughout the document. In this paragraph, e.g. "peyote", "iboga", "ayahuasca" maybe common to the locals (North Americans, Gabonese).	Thank you for your comment. Peyote is a cactus, iboga and ayahuasca are plants. Scientific names will be added.
648	Minter, David	3	45	1191	45	1191	"hippies" even in inverted commas has no place in this assessment, it is far too judgemental. Change to "there was a rush to that country to experience these fungi".	Thank you for your comment. It referred to a period when these people were called "hippies".
649	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1193	45	1193	re Peyote trading - for ceremonial / other cultural purposes?	Thank you for your comment. Purposes are mainly ceremonial.
650	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1194	45	1196	Two sentences and two massive statements not referenced and may be highly contested. What qualifies a culture or ritual practise to be 'one of the worlds major'? At this stage/section it seems premature/inflammatory to propose what the most effective strategies for conservation may be between culture/religious practises and formal governance sp in light of	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
651	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1195	45	1195	Provide evidence	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
652	TALEB Mohammed Sghir	3	46	1202	46	1203	Add paragraph: In North Africa, maraboutique stations (sacred sites: places where are buried men who had an important religious place in society) play a crucial role in the conservation of biodiversity and also provide a historical idea of vegetation and biodiversity.	Thank you for this suggestion. We have added a reference from Frosch and Deil 2011 to the following sentence: "Sacred natural sites, such as sacred groves and burial sites, are an important feature across the world that can play a central role in biodiversity and
653	Germany	3	46	1207	46	1207	Please cross-check: Should "India" be mentioned here in a sentence that deals with African context?	Thank you for your comment. These examples have been incorporated into a new sentence that now reads: "Sacred natural sites, such as sacred groves and burial sites, are an important feature across the world that can play a central role in biodiversity and resource
654	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1210	45	1221	As this section progresses it becomes less clear what the intention of the section is again. Is it to simply document what the uses of wild species are in the various categories defined (including ceremony/culture as per this subsection)? Or to describe how such uses are/may be contributing to species sustainability therein (e.g., lines 1211-1212), or to compare	Thank you for your comment and for highlighting structural concerns with the argument being developed here. The sections identified have been rearranged to consolidate the information and clarify the message. "State-managed" has been amended to "similar secular
655	Germany	3	46	1222	46	1224	Clarification required: What is this representation based on? Regions, cultures or species?	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
656	Minter, David	3	46	1222	46	1222	An additional table is needed for use of fungi in culture and ceremonial expressions etc. and the order of the tables should be neutral	Thanks for this suggested change but it is no longer relevant as the table has been removed.

657	Damayanti, Elyn	3	46	1225	47	1231	Please include species used in ceremony and cultural expression from Southeast Asia, e.g. from Indonesia: <i>kemenyan</i> (<i>Styrax benzoin</i>), <i>sirih</i> (<i>Piper betle</i>), <i>pinang</i> (<i>Areca catechu</i>), blood of domestic chicken, etc. References are scattered, but mostly in Indonesian language.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
658	Kenward, Robert	3	48	1226	48	1228	To Table 3.4, add Holly (<i>Ilex aquifolium</i>), Ivy (<i>Hedera</i> species) and Mistletoe (<i>Viscum album</i>) for use in Europe at Christmas. Use of Norway Spruce (<i>Picea abies</i>) is more recent but long-standing for signalling building 'topping-out' (completion) in Central Europe. Surely, many, many more!	Thanks for this suggested change but it is no longer relevant as the table has been removed.
659	Kenward, Robert	3	48	1226	48	1228	To Table 3.4, add Holly (<i>Ilex aquifolium</i>), Ivy (<i>Hedera</i> species) and Mistletoe (<i>Viscum album</i>) for use in Europe at Christmas. Use of Norway Spruce (<i>Picea abies</i>) is more recent but long-standing for signalling building 'topping-out' (completion) in Central Europe. Surely, many, many more!	Thanks for this suggested change but it is no longer relevant as the table has been removed.
660	Demissew Sebsebe	3	46	1227	1228		<i>Adansonia digitata</i> not A, <i>digitata</i>	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
661	Fisher, Sue	3	46	1230	46	1230	Please add bowhead whale for the Alaskan Inupiaq and Yup'ik Eskimo, Bodenhorn, B. 2000a. It's Good to Know Who Your Relatives Are but We Were Taught to Share with Everybody: Shares and Sharing among Inupiaq Households. In <i>The Social Economy of Sharing</i> .	Thanks for this suggested change but it is no longer relevant as the table has been removed.
662	Minter, David	3	47	1232	47	1232	change "plants and fungi" to "fungi and plants"	Thanks for this suggested change but it is no longer relevant as the table has been removed.
663	Kathryn Phillips (on behalf of UNEP - WCMC)	3	47	1232	47	1233	Wild food constitute what could be called festival food - In some communities, and as well as providing an important source of food and income	Thank you for comment. This section focuses only on ceremonial use.
664	Kathryn Phillips (on behalf of UNEP - WCMC)	3	47	1237	47	1249	There needs to be some discussion or definition of how/what differentiation is being made in this section between 'ritual hunting' of species, vs the prior section on hunting.	Thank you for this comment. This was rewritten and improved in the Second Order Draft.
665	Zhiyuan Hou	3	47	1248	47	1249	China forbids hunting monkeys protected by law	Thank you for your comment. This is a case in Belize.
666	Demissew Sebsebe	3	48	1251	1292		3.3.3.2 Decorative and aesthetic. Contents in 3.3.3.2 only refer to the decorative aspect, but where are the examples on the aesthetic?	Thank you for this comment. This was rewritten and improved in the Second Order Draft.
667	Pilling, Dafydd	3	48	1251	49	1252	The section is very focused on international trade as opposed to local use. There also seems to be something of an imbalance in terms of the amount of attention given to animal skins relative to other items used for decorative purposes, e.g. wood.	Thank you for your comment. We changed the structure of this section (by practices and uses), and the content at the final of the assessment will be more balanced.
668	Stiles, Daniel	3	48	1251	49	1292	Only one source (UNODC 2016) and two uses (fur and reptile skins) are cited. There are hundreds of other examples that are omitted that have great relevance, e.g. ivory, rhino horn, big cat parts, various timbers that are carved, marine shells, etc.	Thank you for your suggestion. We changed the structure of the entire section. The information of uses is now organized according to practices, and we are working on adding more information.
669	Stiles, Daniel	3	48	1251	49	1292	Only one source (UNODC 2016) and two uses (fur and reptile skins) are cited. There are hundreds of other examples that are omitted that have great relevance, e.g. ivory, rhino horn, big cat parts, various timbers that are carved, marine shells, etc.	Thank you for your suggestion. We changed the structure of the entire section. The information of uses is now organized according to practices, and we are working on adding more information.
670	Kathryn Phillips (on behalf of UNEP - WCMC)	3	48	1255	48	1260	They' as 'some species' in general needs better defining.	Thank you for this comment. This was improved in the Second Order Draft.

671	Erb, John	3	48	1261	48	1272	I do not like the implication that animal skins are only used in the fashion industry. In other places of the document you emphasize indigenous people, but here you neglect use of fur/skins as practical clothing by many cultures. Further, just because skins may be processed by a furrier, and sold in a store, does not mean they are only purchased for	Thank you for your comment. We have changed the text accordingly.
672	Kathryn Phillips (on behalf of UNEP - WCMC)	3	48	1263	48	1264	Surely also where species are not so abundant?	Thank you for this comment. This was improved in the Second Order Draft.
673	Sousa Pinto, Isabel	3	48	1267			With these impressive numbers why are these mammals listed in the table from page 13	Thank you for your comment. We changed the structure of the entire section. We edited the tables and we are trying to include the information available organized by practices and uses.
674	Kathryn Phillips (on behalf of UNEP - WCMC)	3	45	1268	45	1268	"CITES continues to record large exports of wild-sourced skins of protected species" What do you mean here, that exports should not be happening because the species are nationally protected? That is what is implied, but probably isn't the case.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
675	Finnish national IPBES panel (Oksanen, Elina)	3	48	1272	48	1273	It must be noted herein (Figure 1) that fur production (at least in Finland) is from strictly regulated fur farming, not from wild animals.	Thank you for your comment. We have changed the text accordingly.
676	Kenward, Robert	3	48	1273	48	1275	It needs to be made clear that 'Denmark' includes Greenland.	Thanks for this suggested change but it is no longer relevant as the figure has been removed.
677	Kenward, Robert	3	48	1273	48	1275	It needs to be made clear that 'Denmark' includes Greenland.	Thank you for your comment. We changed the structure of the section and we will not include the figure for now. However, we included other data from different regions to show the status and trends in uses.
678	Adeline Lerambert	3	49	1278	49	1292	This paragraph gives the impression that reptile skins are entirely (or largely) derived from farms. However the commercial skin trade threatens many reptile species. See for example Kasterine (2013) The Trade in Southeast Asian Python Skins https://dx.doi.org/10.2139/ssrn.2362381	Thank you for this comment. This was improved in the Second Order Draft.
679	Kenward, Robert	3	49	1278	48	1292	How much use of reptile skins should be excluded as farmed?	Thanks for your comment. We were not able to address it as we have not find relevant answers in recent literature sources.
680	Kathryn Phillips (on behalf of UNEP - WCMC)	3	49	1278	49	1292	This section is a straight copy from UNODC, World Wildlife Crime Report: Trafficking in protected species, 2016 and does not refer to the original sources.	Thank you for this comment. This was rewritten and improved in the Second Order Draft.
681	Pilling, Dafydd	3	49	1281	49	1288	This is about reptile farming. While I suppose farmed reptiles belong to wild rather than domesticated (or at least fully domesticated) species and hence possibly fall within the scope of this study (this is not entirely clear, see my comment on Chapter 1), should there not be some kind of acknowledgement that there is a distinction between farming and	Thank you for this comment. This was rewritten and improved in the Second Order Draft.
682	Kathryn Phillips (on behalf of UNEP - WCMC)	3	49	1285	49	1288	I can only see 13 countries either registered facilities that breed crocodiles listed in Appendix I : Bangladesh, Cambodia, China, Colombia, Cuba, Honduras, Mali, Philippines, Senegal, Singapore, Thailand, Tunisia and Viet Nam	Thanks for this suggested change but it is no longer relevant as the appendix has been removed in the Second order Draft
683	Adeline Lerambert	3	49	1290	49	1290	We suggest adding the following sentence regarding value of the reptile skin trade: "A hunted snake sold for slaughter for US\$ 30 represents around 0.5% of the final value of a high-end python skin handbag." [See Kasterine, A., Arbeid, R., Caillabet, O. and Natusch, D. (2012). The Trade in South-East Asian	Thank you for your comment. This is included in the final draft.
684	Freyer, Daniela	3	49	1290	49	1290	As an example, the following could be added in here: A snake that is sold for slaughter for US\$ 30 after being hunted is about 0.5% of the value of a high-end python skin handbag. See	Thank you for your comment. This is included in the final draft.

685	Kathryn Phillips (on behalf of UNEP - WCMC)	3	49	1293	52	1355	Energy section reads nicely compared to previous sections. Could perhaps expand discussion of collection/extraction techniques for fuelwood (felling/machinery/charcoal processing practices?), the species most greatly impacted in the most dependent areas?, and a little more on the use/sustainability issues around Eco stoves and/or other sustainable	Thank you for you comment. We have considerably revised this section.
686	Kathryn Phillips (on behalf of UNEP - WCMC)	3	49	1294	50	1301	A description of what is meant by clan fuels in the context of the report would be useful. Same as clean cooking?	Thank you for your comment. "access to affordable and clean energy" is the stated SDG Goal 7. In text, "unclean biomass" in mentioned in relation to household air pollution.
687	Pilling, Dafydd	3	49	1297	49	1297	The 2.8 billion figure does not seem to be exactly correct. The number relying on traditional use of solid biomass is reported to be 2.5 billion. The other 0.3 billion lacking access to clean cooking facilities apparently use kerosene or coal: see International Energy Access Outlook 2017 page 58. Also presumably some of this biomass comes from non-wild	Thank you for your comment. This is correct, the IEA's classification of "traditional biomass" includes animal wastes. We have now incorporated the latest stats from the "Tracking SDG 7 report 2020" that reports on unclean energy (including wood-based, animal and crop
688	Germany	3	50	1302	50	1302	Figure 3.11: First graph (on supply/demand balance) should be larger or have the explanatory text increased in size. It would also profit from a header to easily grasp the difference in illustrations. Where do the three red boxes belong to? What reference is shown in the maps?	Thank you for your comment. This figure has been considerably revised.
689	Kenward, Robert	3	50	1302	50	1304	These are such useful diagrams, as they show the huge potential of combining solar tech-trans with micro-banking for rebuilding forest area in the tropics.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
690	Pilling, Dafydd	3	51	1309	51	1309	In presenting forestry statistics and discussing the use of forest-tree species in the context of this study, should there not be some kind of acknowledgement of the distinction between planted and "natural" forests?	Thank you for your comment. This is addressed in the timber harvesting section, which has been thoroughly revised in the Second Order Draft.
691	Pilling, Dafydd	3	51	1312	52	1338	Most of this seems to be based on pretty old references for a discussion of current status and trends. If these are really the most recent available references, maybe this should be noted.	Thank youfor your comment. This section has been considerably revised. However, the reviewer is correct. Dewees 2020 Int For Review notes that "there is surprisingly little analysis of current global rates of woodfuel use viz. total energy use and projections of
692	Sousa Pinto, Isabel	3	51	1315			Reference from 2003 - things may have changed	Thank you for your comment. Unfortunately, there is very little data at a global scale to update this information. See Dewees 2020 Int For Review.
693	Stiles, Daniel	3	51	1316	51	1328	Surely there are more current data than the early 2000s.	Thank you for your comment. Unfortunately, there is very little data at a global scale to update this information. See Dewees 2020 Int For Review.
694	Kathryn Phillips (on behalf of UNEP - WCMC)	3	51	1319	51	1320	Not clear what is meant by sentence starting ...'Although fuelwood sustainability...' means in the context of the sentence, perhaps rephrase?	Thank you for your comment. This sentence has been reformulated in the Second Order Draft.
695	Pilling, Dafydd	3	52	1332	52	1333	No mention anywhere in this section of large-scale industrial use of woodfuel, e.g. for electricity generation?	Thank you for this comment. Commercial use of woodfuel has now been mentioned.
696	Özden Görücü	3	55	1332	55	1355	Renewable energy potentials and present uses as a defacto should be explained and clarified	Thank you for your comment and thank you for this reminder. We have incorporated more explicit information about biomass-based energy in the SOD under Timber Harvesting, as well as the trade-offs inherent in timber vs energy-based use of wood. The
697	Ehara, Makoto	3	52	1344	52	1345	In addition to the introduced consequences of the fuelwood shortages, "increased distance traveled for fuelwood collection" and "changes in fuelwood collection site whose land management category (or land use type) is different from the original site" should be introduced as consequences of the shortages of fuelwood due to land use changes	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
698	Kathryn Phillips (on behalf of UNEP - WCMC)	3	52	1344	52	1344	Shortages in ...? (Close proximity wood for fuel?)	Thank you for this comment. This was taken into account in the revised section in the Second Order Draft.

699	Kathryn Phillips (on behalf of UNEP - WCMC)	3	52	1346	52	1346	Also in violation of state/gov likely?	Thank you for this comment. This was taken into account in the revised section in the Second Order Draft.
700	White, Michael	3	52	1348	52	1355	Solar ovens and small electrical appliances (rice cooker) running from solar could help; likewise with 'rocket stoves'	Thank you for this comment. This was improved in the Second Order Draft.
701	Kathryn Phillips (on behalf of UNEP - WCMC)	3	52	1349	52	1349	Expectations usually are/not realised or met rather than occur.	Thank you for this comment. This was taken into account in the revised section in the Second Order Draft.
702	Molnár, Zsolt	3	52	1356			Are you planning to discuss the use of forage plants and wild fodder plants (grass hay and tree fodder) as wild species? I think it would be useful to see how key plant species of pastures are perceived, monitored and managed by pastoralists (there are many publications). If it helps, we have a database on some case studies (Molnár, Zsolt, Centre for	Thank you for your comment. Information on fodder plants are considered in relation to existing material in the final draft.
703	Pilling, Dafydd	3	52	1359	52	1359	"aliments and drink ingredients for humans" are "food products"	Thank you for this comment. This was revised and improved in the Second Order Draft.
704	Kathryn Phillips (on behalf of UNEP - WCMC)	3	52	1361	52	1366	Para appears to refer to a developing nation state largely (although lacking in references), but might want to broaden/extend the discussion to include other country scenarios that may also use wild species.	Thank you for this comment. This was taken into account in the revised section in the Second Order Draft.
705	Kathryn Phillips (on behalf of UNEP - WCMC)	3	52	1367	52	1368	Who/which group of people is this describing?	Thank you for your comment. This is a general comment that is being used in the text as an introductory sentence to the paragraph and does not refer to a specific group of people.
706	Pilling, Dafydd	3	53	1376	53	1377	The mushroom figures from Boa 2004 have already been presented above (albeit in more rounded form) (lines 557 and 558)	Thank you for this comment. This was taken into account in the revised section in the Second Order Draft.
707	Bélanger, Julie	3	53	1379	53	1382	To give a better picture of what the results from the analysis of the 91 country reports represent, we would recommend indicating that a) of the 91 countries that prepared reports for the SoW-BFA, only 69 provide information on the specific wild foods used, b) a total of 2822 distinct species were reported as 'wild foods', with some of them mentioned by	Thank you for this comment. This was taken into account in the revised section in the Second Order Draft.
708	Pilling, Dafydd	3	53	1379	55	1401	This large block of information based on the findings of The State of the World's Biodiversity for Food and Agriculture seems to lack context. Rather than presenting a series of snippets of information, the text should provide some kind of indication of their significance in the context of the analysis presented in this section (e.g. that the SoW-BFA is one of	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
709	Pilling, Dafydd	3	53	1382	53	1382	If this figure is to be included, please include the explanatory footnote about what a "response" is.	Thank you for this comment. This was taken into account in the revised section in the Second Order Draft.
710	Bélanger, Julie	3	53	1392	55	1392	Word missing: ... revealed the 12 genera most frequently reported ...	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
711	López-Castro, Melania	3	53	1392	53	1395	Please review the wording of this paragraph and use rules to write scientific names	Thank you for your comment, the sentence has been rewritten.
712	Butchart, Stuart	3	54	1396			The total reported here for birds is little more than 10% of the total of 1398 bird species globally that are hunted for food as documented in Butchart et al 2008 Bird Conservation International 18:S245–S262. It is therefore highly misleading	Thank you for your comment, the table was not completed, the section has been revised.

713	Fisher, Sue	3	54	1396	54	1396	Surely some of these countries reported use of cetacea given how widespread hunting for aquatic wild meat is?	Thank you for your comment, the table was not completed, the section has been revised.
714	Germany	3	54	1396	54	1396	Clarification required: Table 3.7: What is the selection of wild food species based on?	Thank you for your comment, the table was not completed, the section has been revised.
715	Serge Michel Garcia	3	54	1396	54	1397	Table 3.7: the list of fish species reported by countries to FAO is much longer (around 1200 or more)	Thank you for your comment, the table was not completed, the section has been revised.
716	Sousa Pinto, Isabel	3	54	1396			Can you include algae here	Thanks for comment, we have chosen to include it
717	TALEB Mohammed Sghir	3	54	1396	54	1397	Table 3.7: All scientific names of species must be italic	Thank you for your comment, the table was not completed, the section has been revised.
718	Kathryn Phillips (on behalf of UNEP - WCMC)	3	54	1396	54	1396	Genus names need to be italicised in the table	Thank you for your comment, the table was not completed, the section has been revised.
719	Mohamed abourouh	3	61	1396	61	1396	Within the table, I propose to add to the fungi the following genera and species: <i>Agaricus</i> spp., <i>Amanita</i> spp., <i>Macrolepiota procera</i> , <i>Suillus</i> spp. and <i>Terfezia</i> spp.	Thanks for this suggested change but it is no longer relevant as the table has been removed.
720	Lafaye de Micheaux Flore	3	54	1397	54	1398	It would be worth to mention here briefly how the abundance was estimated in the FAO 2019 results (what approach and methods?) to accompany the percentages of increase/decrease abundance that are presented.	Thanks for comments, the positive feedback is appreciated by the chapter authors.
721	Butchart, Stuart	3	55	1401			The Red List Index for species used for food and medicine shows global trends in survival probability for the worlds mammals, birds and amphibians. The declines it shows indicates that these species are moving to extinction at an accelerating rate. This indicator was used in the IPBES Global Assessment and is in the BIP Indicator suite. The	Thank you for this comment. This was improved in the Second Order Draft.
722	Kenward, Robert	3	55	1402	55	1404	Figure 3.13 is a phenomenally useful summary; Africa and Asia have much to learn from Europe and Central Asia.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
723	Pilling, Dafydd	3	56	1402	55	1403	If this figure is to be used, please include the explanatory footnote about what a "response" is.	Thanks for this suggested change but it is no longer relevant as the figure has been removed.
724	Bélanger, Julie	3	56	1405	55	1405	About 2000 species: I see fish is included in the list of sources of wild meat. Wild fish harvested for food already total over 1800 species, therefore the 2000 figure seems low. Or are capture fisheries not included in this estimate? It would be useful to clarify since 'fish' is listed as species used for wild meat. For information: 'The world's fisheries	Thank you for your comment, the table was not completed, the section has been revised.
725	Demissew Sebsebe	3	56	1405	1406		Do invertebrates produce "wild meat"? It is also repeated on page 83, line 2068	Thank you for your comment, the table was not completed, the section has been revised.
726	Germany	3	56	1405	59	1527	Fig. 3.12 shows that the highest number of wild food species worldwide are plants. However, most of this chapter is focused on animals. There is a lack of information on the amount of wild plants consumed and the nutritional value gained from them. More information on these aspects are appreciated. Also, values of consumptions of wild meat may be	Thank you for your comment, the section has been rewritten.

727	Kathryn Phillips (on behalf of UNEP - WCMC)	3	56	1405	56	1406	The section "As many as 2,000 species of invertebrates, amphibians, fish, reptiles, birds and mammals are used as wild meat across the world (Redmond et al. 2006; Stafford et al. 2017a; Ingram, 2018)." is taken directly from the following source: Coad L, Fa JE, Abernethy KA, Santamaria C, Wilkie D, El Bizri HR, Ingram DJ, Cawthorn D-M, Nasi R.	Thank you for comment, Coad et al., 2019 is cited in the Second Order Draft.
728	Kathryn Phillips (on behalf of UNEP - WCMC)	3	56	1405	59	1526	This whole section has been more or less copied from Coad et al 2019 and the accompanying SBSTTA info doc. If you want to do this, say this is what has been done at the beginning of the section. Otherwise you could be accused of plagiarism.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
729	Kathryn Phillips (on behalf of UNEP - WCMC)	3	56	1406	56	1412	The section "In sub-Saharan Africa, over 500 terrestrial species may be consumed (Redmond et al. 2006). As many as 129 vertebrates are known to be hunted for food in West and Central Africa, amongst which 91 species are mammals, 19 are reptiles, 14 are birds and two are amphibians (Petrozzi et al. 2016). At least 114 species have been	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
730	Kathryn Phillips (on behalf of UNEP - WCMC)	3	56	1413	56	1417	The section "The main vertebrate group targeted by hunting activities are mammals (Fa et al. 2006; Abernethy et al. 2013; Alves et al. 2016; Barboza et al. 2016; Coad et al., 2019). These animals comprise the preferred source of food because of their size and the possibility of yielding a greater return for the energy invested in hunting (Leopold,	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
731	Kathryn Phillips (on behalf of UNEP - WCMC)	3	56	1417	56	1418	The section "In a series of studies in West and Central Africa, ungulates and rodents respectively constituted 73% and 12% of the total harvested biomass (Fa et al. 2006)." is taken directly from the following source: https://www.cbd.int/sbstta/sbstta-21-wg8j-10/CIFOR-CBD-wildmeat-info-doc-review-en.pdf , page 8	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
732	Kathryn Phillips (on behalf of UNEP - WCMC)	3	56	1418	56	1424	The section "Annual offtake rates for Central Africa could be between 1.6 and 11.8 million tons of meat per year, and between 0.07 and 1.3 million tons of meat per year for the Brazilian Amazon (Coad et al., 2019). There are no similar reviews for Asia, where there are still insufficient hunting data to make any adequate comparisons (for an overview, see Corlett,	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
733	Sousa Pinto, Isabel	3	56	1425			do you include fish in the wild meat?	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
734	Kathryn Phillips (on behalf of UNEP - WCMC)	3	56	1425	56	1428	The section "Measured per capita wild meat consumption in different tropical regions ranges from 0.05 to 0.28 kg/person/day (Nasi et al., 2011; Coad et al., 2017). This variation is generally explained by a) the productivity and depletion levels of the landscape; b) the price and availability of alternatives; c) the wealth of the consumer and d)	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
735	Kathryn Phillips (on behalf of UNEP - WCMC)	3	57	1429	57	1434	The section "Where the protein composition of wild meat has been measured (generally for rodents and ungulates), it is comprised of approximately 25% protein (Ntiemoa Baidu, 1997). Wild meat consumption delivers, on average, between 60% and 80% of daily protein needs for the communities in the Amazon and Congo Basins. In	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
736	Kathryn Phillips (on behalf of UNEP - WCMC)	3	57	1435	57	1445	The section "Aside from protein, wild meat also provides an important source of fat and calories for many rural people (Smith et al., 1993; Sirén and Machoa, 2008; van Vliet et al., 2018b), and contributes to nutritional diversity (Sarti et al., 2015; van Vliet et al., 2015d). Meat also provides various important micronutrients (vitamins and minerals such as iron and	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
737	Pilling, Dafydd	3	57	1446	57	1459	The question of the causes of variation in wild meat consumption levels has already been introduced above.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
738	Kathryn Phillips (on behalf of UNEP - WCMC)	3	57	1446	57	1459	The section "Proximity to alternative wild protein resources (e.g. coastal or river fish resources) gives rise to regional variations in rural wild meat consumption rates (Brashares et al. 2011). For example, along the Atlantic coast of Africa, the Yassa people eat sea fish and cassava, while for Kola pygmies in climax forest further inland, the main source of meat	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
739	Kathryn Phillips (on behalf of UNEP - WCMC)	3	57	1460	58	1470	The section "In the Amazon, urban wild meat consumption was considered insignificant for many years (Rushton et al. 2005). However, recent studies demonstrate that urban consumption of wildlife is widespread in Amazonia's towns (Parry et al. 2014; van Vliet et al. 2014), as well as on the Pacific coast of Colombia (van Vliet et al. 2018b) and	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
740	Pilling, Dafydd	3	57	1464	57	1466	There does not seem to be any mention of these "large well-known urban markets" in the Rushton et al document. It also does not seem to specifically indicate that urban wild meat consumption was considered low "for many years" [lines 1460 to 1461], just that it was considered low at the time of writing. (Note that I am not generally "fact checking" the	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.

741	Damayanti, Elyn	3	58	1471	58	1482	[Line 1471-1472] "... most rural 1471 communities in Asia tend not to eat large quantities of wild meat..." -->This reality maybe related to religions of the Asian people too: the strict Hindus' and Buddhas' (mostly in South Asia - India, Nepal, Sri Lanka, and northern part of Southeast Asia - Myanmar, Thailand, Vietnam, Laos, Cambodia) are mostly vegetarians.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
742	Kathryn Phillips (on behalf of UNEP - WCMC)	3	58	1471	58	1482	The section "In comparison with rural communities in the Amazon and the Congo Basin, most rural communities in Asia tend not to eat large quantities of wild meat, although estimates of consumption per person per day are lacking, and wild meat consumption in more remote areas may still be significant. A rare consumption study from Sulawesi.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
743	Kathryn Phillips (on behalf of UNEP - WCMC)	3	58	1483	58	1486	The section "In the Amazonian countries the protein demands of urban populations are fulfilled by intense livestock production, but wild meat often comprises a significant proportion of the protein consumed by forest-dwelling communities (Rushton et al., 2005; Nasi et al., 2011; WorldBank, 2013)." is taken directly from the following source: Foster B.J.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
744	Kathryn Phillips (on behalf of UNEP - WCMC)	3	58	1486	58	1486	Given the global remit of the SUA discussion of the US/European and mid-far Eastern developed regions' use of wild species for food should be included?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
745	Kathryn Phillips (on behalf of UNEP - WCMC)	3	58	1486	58	1486	Given the global remit of the SUA discussion of the US/European and mid-far Eastern developed regions' use of wild species for food should be included?	Thank you for this comment. This was taken into account in the Second Order Draft.
746	Kathryn Phillips (on behalf of UNEP - WCMC)	3	58	1487	58	1489	The section "Reptiles and amphibians also serve as an important source of protein for human populations. Of all reptiles, turtles and tortoise species (chelonians) are the most heavily exploited for human consumption (Pezzuti et al., 2010; Alves et al., 2012)." is taken directly from the following source: Coad L, Fa JE, Abernethy KA, Santamaria C.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
747	Kathryn Phillips (on behalf of UNEP - WCMC)	3	58	1491	58	1500	The section "In South America, the giant Amazon river turtle (Podocnemis expansa), the largest South American river turtle, is one of the most consumed species. Crocodile and alligator meat is considered a delicacy (Huchzermeyer, 2003), and it is particularly consumed in Australia, South Africa, Thailand, Ethiopia, Cuba, and in regions of the	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
748	Butchart, Stuart	3	58	1501			This is a very specific set of Latin American examples. Surely it should be complemented or replaced with comprehensive global statistics to summarise the scale of use? See references suggested above, including Butchart 2008 Bird Conservation International and the 3 Brochet et al papers which indicate the proportion of illegally killed birds where food is	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
749	Kathryn Phillips (on behalf of UNEP - WCMC)	3	58	1501	59	1514	The section "Birds also play an important role in the subsistence of rural families that depend on wildlife for their livelihoods. Cracids, a group of large arboreal galliform birds (chachalacas, guans and curassows) are important prey in tropical and subtropical Central and South America. They are traditionally considered the most important birds for subsistence	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
750	Kathryn Phillips (on behalf of UNEP - WCMC)	3	59	1515	59	1527	The section "Though small, invertebrates can have a significant nutritional role in some areas through their high abundance but are frequently overlooked in studies of wild food harvesting (Raubenheimer and Rothman, 2013; Ingram, 2018). More than 1700 insect species are eaten worldwide (Raheem et al., 2018), including 520 species in Africa	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
751	Sousa Pinto, Isabel	3	59	1527			Why are fish not treated in this section regarding food and feed? In line 1413 there is a statement that the main vertebrate group targeted by hunting activities are mammals, so these are treated in detail. Bu then there is no fishing section.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
752	Anthony, Brandon P.	3	59	1528	66	1670	consider also using Sukanan & Anthony 2019 [Sukanan, Darunee & Anthony, Brandon P. 2019. Community attitudes towards bears, bear bile use and bear conservation in Luang Prabang, Lao PDR. Journal of Ethnobiology and Ethnomedicine 15: 15 pp. Available at https://doi.org/10.1186/s13002-019-0292-5]	Thank you for your comment. Information on bears are considered in relation to existing material in the final draft.
753	Adeline Lerambert	3	59	1528	66	1670	This section, on 'Medicine and hygiene', focusses almost entirely on the use of plants in traditional medicine and other products, but fails to consider the extensive use of animal products in 'traditional' medicine, and increasingly for recreational/status purposes, and the impact this changing and often increasing demand is having on endangered animal	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
754	Germany	3	59	1528	66	1670	Line 1643: Information for wild animal species used for medicinal use is missing here (e.g. Pangolin, Rhinoceros, shark-finning). Some of it is mentioned in ch 4 (p. 27, line 924 and p. 80 line 2657-2669). However, it may be useful to include this information here as well.	Thank you for this comment. This was taken into account and improved in the Second Order Draft.

755	Pilling, Dafydd	3	59	1530	59	1540	This text seems to make more or less the same point three times, i.e. that use of medicinal plants is an ancient tradition but still happens today. Also note with regard to the last sentence in lines 1533 to 1535 that the point in the equivalent sentence in the document cited (which is missing from the reference list by the way) is not about "drug discovery" but about	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
756	TALEB Mohammed Sghir	3	59	1533	59	1533	The World Health Organization estimates that 80% of people in developing countries use traditional medicine based mainly on plants (Taleb: Oral presentation lin 19th International Conference on Organic Agriculture and Plant Protection, Kuala Lumpur, 2017). In the northwest of the Amazon, indigenous peoples use at least 1300	Thank you for the comments. The information does not meet the requirements of citation and systematic literature review.
757	Kathryn Phillips (on behalf of UNEP - WCMC)	3	59	1542	60	1545	Could move the sentence on US and Europe to end of first para to acknowledge relevance to developed countries too - this section and food/feed are heavy on developing regions (relevant re' dependence and geography of species) but impact of developed region on wild species sustainability is extensive!	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
758	Damayanti, Eilyn	3	60	1547	60	1548	Traditional medicine that is often related to 1547 traditional Chinese medicine (TCM), Indian Ayurveda and Arabic Unani medicine; -> add Javanese <i>Jamu</i> , Balinese <i>Usada</i> . Worth to check also if <i>Jamu</i> has been used by Surinamese descendant from Javanese people.	Thank you for your comment, the section has been rewritten.
759	Finnish national IPBES panel (Oksanen, Elina)	3	60	1548	60	1549	Drosera species (commonly known as the sundews) are attractive species for the central European biomedicine companies (due to their pharmaceutical compounds). These species are growing in sensitive and fragile wetland habitats (bogs, ferns, swamps) in northern countries (particularly in Finland). The sustainable use of these species deserve	Thank you for the comments. The systematic literature review did not clearly state the status and trends of this item. It may need more in situ scientific research.
760	Finnish national IPBES panel (Oksanen, Elina)	3	60	1551	60	1571	This section should be moved forward, after medical use of plants (page 63).	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
761	Pilling, Dafydd	3	60	1551	60	1571	Structure is confusing here. Why is this paragraph on perfumes, incense etc. inserted into the middle of the discussion of traditional medicines?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
762	Demissew Sebsebe	3	60	1553			Frankinsence NOT franklin-cense	Thank you for this comment. This was corrected to "Frankincense" in the Second Order Draft.
763	Jungwiwattanaporn, Megan	3	60	1572	60	1572	The section on traditional medicine mentions Chinese medicine but only goes in depth on Ayurveda, Tibetan, and Siddha systems. Many species, including marine species products are traded due to traditional Chinese medicine. More detail could be given here.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
764	Pilling, Dafydd	3	60	1572	60	1574	The same point is made just above	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
765	Germany	3	60	1575	60	1576	It should read "The percentage of people using traditional medicine INCREASES ..." otherwise the information conflicts with the statement in the sentence before that alternative medicine utilized in industrial countries is achieving growing credibility in many parts of the world. Please also indicate in which period of time this increase in percentage	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
766	Kathryn Phillips (on behalf of UNEP - WCMC)	3	61	1598	61	1604	refs required but not sure these paras are required.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
767	Pilling, Dafydd	3	61	1605	60	1617	Not sure all these historical details are really necessary here. Equivalent details are not provided for most of the other uses discussed in this chapter	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
768	Kathryn Phillips (on behalf of UNEP - WCMC)	3	61	1615	61	1617	?? As follows where?	Thank you for your comment. This was meant to indicate box 3.5.

769	Damayanti, Elyn	3	62	1619	62	1619	[TO BE COMPLETED] --> Two medicinal plant dictionaries from Indonesia: the 1st volume is not printed anymore -- listing medicinal plants used by 45 ethnics (839 species) in Indonesia, while the hardcopy of 2nd volume (hopefully) can still be collected from SEAMEO Biotrop, Indonesia -- listing medicinal plants used by another 48 ethnics (574	Thank you for your comments. This section was heavily revised. This list is only exemplary and cannot be replicated across IPBES regions.
770	CAMARENA, Maria	3	62	1621	63	1623	To complete this table, please take into account CITES Secretariat's overview of trade in medicinal and aromatic plants (CoP18 Doc. 55), at: https://cites.org/sites/default/files/eng/cop/18/doc/E-CoP18-055.pdf	Thanks for this suggested change but it is no longer relevant as the table has been removed.
771	López-Castro, Melania	3	62	1621	63	1622	Please include in the table common names of plants.	Thanks for this suggested change but it is no longer relevant as the table has been removed.
772	Mohamed abourouh	3	69	1621	70	1622	Below are some examples of common medicinal plants used in Morocco, maybe to be added to the table (El Abbouyi et al., 2014; Hachi et al., 2015): Ammi visnaga (Species), Diabetes, renal pain and tonic (major uses).	Thank you for your comments. This section was heavily revised. This list is only exemplary and cannot be replicated across IPBES regions.
773	Sousa Pinto, Isabel	3	64	1640			Don't forget algae - although many are not included in the Plant kingdom they are many times included in the Ethnobotanical lists	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
774	Kathryn Phillips (on behalf of UNEP - WCMC)	3	65	1643	65	1643	There are some species in demand for food that cannot be cultivated, or perhaps more relevantly, not easily or in a way that makes breeding them financially viable. For example, humphead wrasse.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
775	TALEB Mohammed Sghir	3	65	1649	65	1650	The World Bank estimates that the global trade in aromatic and medicinal plants and their products will reach 5 \$ US trillion by 2050 (Taleb: Oral presentation lin 19th International Conference on Organic Agriculture and Plant Protection, Kuala Lumpur, 2017)	Thank you for the comments. The information does not meet the requirements of citation and systematic literature review.
776	Kathryn Phillips (on behalf of UNEP - WCMC)	3	65	1650	65	1656	This section is a straight copy from UNODC, World Wildlife Crime Report: Trafficking in protected species, 2016.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
777	Jaramillo, Lorena	3	65	1656	65	1656	UNCTAD (BioTrade Initiative and UNCTADStats) is finalizing an assessment of HS codes related to biodiversity-based products, and will be able to provide trends and value of exports for these products considering UNCTAD calculations based on data from UN Comtrade Database from 2000 until 2018. This information will be shared with the	Thank you for the information.
778	Lafaye de Micheaux Flore	3	66	1670	66	1670	it would be worth to add a few lines here related to the implications on local livelihoods and mountain conservation issues in India, in the Himalayan range, of the sharp increase of collection and trade of cordyceps sinensis. See for instance:	Thank you for your comment. Some of your suggestions were added in the Second Order Draft.
779	Jungwiwattanaporn, Megan	3	60	1671	60	1689	The section on recreational uses of wildlife mentions trophy hunting but not recreational fishing and its impacts on marine species.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
780	Adeline Lerambert	3	66	1671	66	1689	Note that the IUCN WCEL Ethics Specialist Group stated in 2017 that "Trophy hunting is not consistent with "sustainable use" (https://www.iucn.org/news/world-commission-environmental-law/201909/compatibility-trophy-hunting-a-form-sustainable-use-iucns-objectives). These arguments need to be included in any balanced examination of recreational and trophy hunting.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
781	Serge Michel Garcia	3	66	1671	66	1689	Recreational fisheries are also very important and their impact on sustainability often underestimated	Thank you for comment. We agree, but recreational fisheries is in fact an extractive activity, which is now addressed within the fishing section in the Second order Draft.

782	Skern-Mauritzen, Mette	3	66	1671	66	1689	Section 3.3.3.6. Please include text on recreational fisheries	Thank you for comment. We agree, but recreational fisheries is in fact an extractive activity, which is now addressed within the fishing section in the Second order Draft.
783	Sousa Pinto, Isabel	3	66	1671			Please don't forget the marine part in this recreation section	Thank you for your comment, we now had included marine and aquatic activities in this section, such as diving, whale watching, among others.
784	Stiles, Daniel	3	66	1671	66	1689	This section is not adequate. Since recreational extractive use is hunting or fishing, perhaps this section could be omitted, as it duplicates earlier sections, unless some other extractive recreation exists. Viewing and eco-tourism has also already been covered above.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
785	Erb, John	3	66	1673	66	1674	I absolutely disagree with lumping "trade in skin" as a "recreational activity. Most use/trade/sale of skin comes about through harvest that is clearly not "recreational" in primary motivation (as I highlighted in previous comment). Please delete from this section.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
786	Meera Anna Oommen	3	66	1673	66	1689	The section on trophy hunting does not have much detail. It would be useful to include more examples of contemporary situations where trophy hunting has worked, as well as those where the results have not been positive. It would also help if the authors clarified somewhere within this chapter that many forms of trophy hunting cannot be simply classified as	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
787	Kathryn Phillips (on behalf of UNEP - WCMC)	3	66	1673	66	1674	Recreation section needs a rewrite. The "trade in skin" is generally not for recreational use and should be deleted. Quotas are one tool used for the management of trophy hunting, and as much trophy hunting occurs internationally, CITES should be mentioned here. There are a number of CoP approved quotas for hunting of certain species (such as rhino,	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
788	Kathryn Phillips (on behalf of UNEP - WCMC)	3	66	1677	66	1678	This may describe one model but there may be many other models tying trophy hunting to economics of conservation. Suggest either review more widely or leave out. Reference Primack 2006 is old - many more appropriate/specific would be more appropriate.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
789	Stiles, Daniel	3	66	1678			The meat is usually distributed to the local community.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
790	Kathryn Phillips (on behalf of UNEP - WCMC)	3	66	1678	66	1679	meat goes to 'the team'?	Thank you for your comment. Yes, that's right, the statement was rewritten for better understanding
791	Erb, John	3	66	1679	66	1680	This statement on illegal hunting is not relevant to a section on recreation. Illegal hunting is illegal hunting, period.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
792	Stiles, Daniel	3	66	1679	66	1680	Poaching for skins or capture for pet trade is not recreational.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
793	Kathryn Phillips (on behalf of UNEP - WCMC)	3	66	1679	66	1680	random sentence statement which seems unrelated to the topic at hand or prior sentences.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
794	Kathryn Phillips (on behalf of UNEP - WCMC)	3	66	1681	66	1683	some examples of this would be relevant and useful - sentence needs correcting re English.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
795	Erb, John	3	66	1683	66	1684	Just because land is leased for hunting does not mean the purpose is for "recreation". For the landowner, it is for economics. For the hunter, it is for a whole host of reasons, which MAY include "recreation" for some. It is also, perhaps more commonly, for all the reasons people hunt and need land they do not own in order to do so (food, social, culture/tradition,	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.

796	Kenward, Robert	3	66	1685	66	1685	Macaulay (2016) is not listed in references; should it be the US\$157 billion reported on p.4 at https://wsfrprograms.fws.gov/subpages/nationalsurvey/nat_survey2016.pdf ? Worth noting that in Europe the value exceeded €60 billion in 2006	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
797	Kenward, Robert	3	66	1686	66	1686	"surged from US\$77 billion to \$10 billion": to \$157? And during 1985 to 2016?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
798	Pilling, Dafydd	3	66	1686	66	1686	Typo in one of the figures here maybe. The figure appears to have declined rather than surged	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
799	Kenward, Robert	3	66	1686	66	1686	"surged from US\$77 billion to \$10 billion": to \$157? And during 1985 to 2016?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
800	Kathryn Phillips (on behalf of UNEP - WCMC)	3	66	1687	66	1689	random addition of an example about goose populations and use in mitigating HWC ... ? Section all needs work to expand, be accurate and read well.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
801	Pilling, Dafydd	3	66	1688	66	1689	Wording seems somehow inappropriate, i.e. suggesting that one of the parties shooting the other is a means of "mitigating conflict" between them.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
802	TALEB Mohammed Sghir	3	66	1689	66	1690	Add a section on plants used for magic purposes	Thanks for the comment, hallucinogenic drugs from plants and fungi has been included.
803	Stiles, Daniel	3	66	1691	67	1702	Proper zoos also fall under this category, and there is a big problem with commercial zoos and safari parks.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
804	Kathryn Phillips (on behalf of UNEP - WCMC)	3	66	1691	67	1702	section on science and educating not yet completed but doesn't start off well - first few sentences are muddled/meaningless or not referenced.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
805	Germany	3	66	1692	67	1702	The seeds of wild plant species are also collected to facilitate their conservation in seed banks, to propagate/distribute material for the purpose of research and to maintain it for reintroductions (Castañeda-Álvarez et al. 2016). Research on seed/leaf material is also done to choose the best locations for the establishment of a network of genetic	Thank you for your comment. Your suggestions were added in the Second Order Draft.
806	López-Castro, Melania	3	66	1693	66	1696	Inconclusive idea. It is not clear why these groups are mentioned. Please review.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
807	Kathryn Phillips (on behalf of UNEP - WCMC)	3	66	1693	66	1695	sentence doesn't work - not sure what it wants to say.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
808	Pilling, Dafydd	3	67	1696	67	1679	This appears to be a statement of the obvious, i.e. that all mammal species are "potential subjects of field studies". Basically the same can presumably be said for all other taxonomic groups as well.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
809	Kathryn Phillips (on behalf of UNEP - WCMC)	3	66	1697	66	1699	The CITES labelling scheme tries to address this, by preventing new samples being collected from the wild where samples already exist in registering institutions. They are exempt from the normal permitting requirements and can just be exchanged through registered institutions. This measure should be included in this section	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.

810	Pilling, Dafydd	3	67	1697	67	1699	It can presumably interfere in ways other than by invasively sampling DNA	Thank you for your comment. However this is unclear and therefore cannot be addressed.
811	Erb, John	3	67	1698	67	1699	I question the accuracy of this statement, at least for mammals, and in North America. The study cited excluded studies that collected samples from "already dead" animals. For just myself, I have contributed towards or coordinated at least 6 genetic studies of carnivores, all samples of which were obtained from legally harvested ("already dead") animals.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
812	Pilling, Dafydd	3	67	1703	67	1705	Is this section going to be expanded to cover anything other than bamboo?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
813	TALEB Mohammed Sghir	3	67	1704	67	1705	Box 3.6 Add another example of use of wild species: Argan tree (<i>Argania spinosa</i> L.) is endemic to Morocco where it constitutes an important source of revenue for the local populations to a total value of 25 to 45% according to the regions. It thus ensures the subsistence of approximately 3 million people, of which roughly a million	Thank you for the comments. The systematic literature review did not clearly state the status and trends of this item. It may need more in situ scientific research.
814	Kathryn Phillips (on behalf of UNEP - WCMC)	3	67	1704	67	1705	Section 3.3.3.8 materials and shelter. Is only the box on bamboo or is more intended? This box needs checking carefully for grammar, but surely there is more to be discussed/assessed re use of species in shelter construction and sustainability on a global level? The entire timber industry is missing.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
815	Butchart, Stuart	3	67	1706			This section should refer to the massive market for cagebirds in South East Asia that is driving the Asia Songbird Crisis (lots of references on this), and the prevalence of bird keeping in Indonesia in particular.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
816	Jungwiwattanaporn, Megan	3	67	1706	67	1741	The section on the pet and zoo trade notes the sale of tropical fish for aquaria. It sounds like this is for at home aquariums. Should this section also cover large scale aquariums (equivalent to zoos)?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
817	Kathryn Phillips (on behalf of UNEP - WCMC)	3	67	1706	67	1741	Review full section 3.3.3.9 (other pet and zoo). Jumps straight into language around trade, when I understand the focus is intended to be on uses? Trade is an economic aspect (or driver) of that 'use' as per the outlined framework? There can be non-commercial aspects to use of live wild species such as captive breeding programmes and zoo (the latter	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
818	Fisher, Sue	3	67	1710	67	1710	Please include small cetaceans too. See: Please include small cetaceans. See Sue J. Fisher & Randall R. Reeves (2005) The Global Trade in Live Cetaceans: Implications for Conservation, Journal of International Wildlife Law & Policy, 8:4, 315-340, DOI: 10.1080/13880290500343624	Thank you for your comment. Aquatic mammals are not in hunting section anymore. See the fishing section.
819	Pilling, Dafydd	3	67	1712	67	1725	References for this material?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
820	Kathryn Phillips (on behalf of UNEP - WCMC)	3	67	1712	67	1715	Focus should be kept on wild species and sustainability. Information re cats and dogs ownership in the US/UK is less useful to that end unless we're talking about the impact of pet food on wild species - but this would fall elsewhere. Suggest remove the para.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
821	Kathryn Phillips (on behalf of UNEP - WCMC)	3	68	1716	68	1716	Wild-caught animals become pets as a use, they are not pets to be caught.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
822	Kathryn Phillips (on behalf of UNEP - WCMC)	3	68	1720	69	1741	Poor description of international trade, monitoring, lack of references and again a lack of acknowledgment of CITES - suggest it needs a rewrite. Not clear if the intention is to show the volume of the trade in live specimens or the value of trade? May be some relevant figures in: https://www.cites.org/sites/default/files/eng/cop/16/inf/E-CoP16i-32.pdf	Thank you for the comments, the subsection has been thoroughly revised, and the trade is addressed in CH4.
823	Kathryn Phillips (on behalf of UNEP - WCMC)	3	68	1720	69	1741	This whole section is more or less a straight copy from UNODC 2016 - World Wildlife Crime Report. Most recent figures for trade in live parrots can be obtained from the CITES Trade Database.	Thank you for the comments, the subsection has been thoroughly revised, and the trade is addressed in CH4.

824	Michels, Ann	3	68	1730	68	1730	Include: "Parrots (Psittaciformes) are among the most threatened bird orders with 28 % (111 of 398) of extant species classified as threatened under IUCN criteria" Source: Olah, G., S.H.M. Butchart, A. Symes, I.M. Guzmán, R. Cunningham, D.J. Brightsmith, and R. Heinsohn. 2016. <i>Ecological and socio-economic factors affecting extinction risk in parrots</i> .	Thank you for this comment. This section was heavily revised in the Second Order Draft and does not tackle trade of animals anymore.
825	Michels, Ann	3	68	1732	68	1732	Include: "In addition, indications are that the internal trade in parrot species is significant in some range countries. For example, a survey of eight cities in Peru estimated a total market size of between 80,000 and 90,000 individual psittacines for sale over one year." Source: GASTANAGA, MELVIN & Macleod, Ross & Hennessey, Bennett &	Thank you for this comment. This section was heavily revised in the Second Order Draft and does not tackle trade of animals anymore.
826	Michels, Ann	3	68	1734	68	1734	Include: "A study of Neotropical Psittacine species found that poaching rates were found to be significantly lower following enactment of the US Wild Bird Conservation Act than in the period before, supporting the hypothesis that the legal and illegal parrot trades are positively related." Source: Wright, T. F., Toft, C. A., Enkerlin-Hoeflich, E., Gonzalez-	Thank you for this comment. This section was heavily revised in the Second Order Draft and does not tackle trade of animals anymore.
827	CAMARENA, Maria	3	68	1735	3	1735	Update infographic with CITES trade date of up to 2017 (see CITES Trade Database).	Thank you for the comments, the subsection has been thoroughly revised, and the trade is addressed in CH4.
828	Michels, Ann	3	68	1735	68	1735	Include: "In the last decade, imports have shifted to Asia, the Middle East, Turkey and Mexico. (CITES Trade Database)."	Thank you for the comments, the subsection has been thoroughly revised, and the trade is addressed in CH4.
829	Morgan, David (on behalf of CITES)	3	69	1740	69	1741	Why unfortunately? [bred, not breed]	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
830	Kenward, Robert	3	69	1740	69	1740	This statement raises the issue of whether well-regulated sustainable harvest from the wild may sometimes do more to conserve wild populations than breeding, often in ex-situ wealthy countries and hence with social equity implications, that contributes nothing to wildlife conservation beyond demand reduction. Should discussion of this later in	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
831	Needham, Nicky	3	69	1740	69	1740	typo - should read "not all species can be bred in captivity..."	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
832	Michels, Ann	3	69	1741	69	1741	Insert: The connections between the trade in wild-sourced birds and captive-bred birds are complex and remain poorly understood. Recent rapid increases in production of captive-bred parrots in some countries (e.g. Grey parrots in South Africa) have only been achieved through the importation of large quantities of wild-sourced specimens (Martin 2018)	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
833	Mulà, Anna	3	69	1741	70	1742	There should be notice when considering Pet and zoo trade, one of the most relevant Resolutions taken in the last CITES CoP18 about the trade in wild-caught African elephants. Per example incorporating a BOX about the "Trade in wild-caught African elephants under the Convention on International Trade in Endangered Species of Wild Fauna and Flora	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
834	Stiles, Daniel	3	70	1741			Could add: The United Nations estimated that up to 3,000 endangered great apes are lost annually in illegal capture for zoos and the pet trade (Stiles, et al. (2013). <i>Stolen Apes: The Illicit Trade in Chimpanzees, Gorillas, Bonobos and Orangutans</i> . A Rapid Response Assessment. United Nations	Thanks for your comment. We have improved this part in the new version.
835	IPSI Secretariat, United Nations University (UNU-IAS)	3	70	1742	70	1754	Sharing is also an important paradigm under which to understand uses of wild species ref.: Saito, O. (ed.). 2019. <i>Sharing Ecosystem Services</i> . Springer https://link.springer.com/book/10.1007/978-981-13-8067-9#toc	Thanks for the comment. The book is useful for understanding the social dimensions of sustainability, including the sharing of knowledge, places, landscapes and other ecosystem services.
836	CAMARENA, Maria	3	70	1742	70	1751	The case studies envisioned seem unbalanced. For example, in the case of plants, these would require to cover at least the following: timber-producing plant (e.g. rosewood, mahogany or cedars); ornamental (palms, already contemplated here); and medicinal and aromatic (to be developed).	Thanks for your suggestion. We have included it in the new version. Also, we reorganized the structure of some sections of the chapter, this included. We are adding different examples of cases. However, we feel our analytical approach is more informative than individual
837	Adeline Lerambert	3	70	1753	70	1750	Note that 'sustainable use' should not have a negative impact on the status of species' populations - otherwise it cannot be described as 'sustainable'	Thanks for your comment. We have included it in the new version. Also, we reorganized the structure of some sections of the chapter, this included.

838	Butchart, Stuart	3	70	1753			This is precisely the question answered (in part) by the Red List Index (impacts of utilisation) which shows trends over time in the status (survival probability, i.e. the inverse of extinction risk) driven by unsustainable use or its control. See references above and the IPBES Global Assessment chapter 3. I can provide the data/graph if that would	Thank you for your comment and this useful suggestion.
839	Kathryn Phillips (on behalf of UNEP - WCMC)	3	70	1753	70	1753	Re q1 to be answered in next section of chp 3 - the question is 'what are the consequences of sustainable use of wild species on the state of species populations? But if the use has already been determined as 'sustainable' surely this would have to have included species conservation status evaluations to ascertain in the first place? Is the	Thank you for making this point. We changed the structure of some sections of the chapter included this, and the text you mentioned is not present in the new version. However, we have considered your comment in the construction of some of the new texts.
840	Stiles, Daniel	3	70	1754			The word 'knowledge' is ambiguous. Does it mean existing information and data from reports and publications?	Thanks for your comment. We reorganized the structure of some sections of the chapter, this included. We are adding different types of data and information to the whole chapter.
841	Jun Wang	3	70	1755	70	1755	Beside "overfishing", unreasonable feeding methods in the sea aquaculture also impact the water environment for wild species.	Thank you for your comment. A whole section deals with that issue within the fishing section
842	Kathryn Phillips (on behalf of UNEP - WCMC)	3	70	1755	79	1975	MSY has lots and lots of criticism, would be good to have some of these highlighted in here. Also no mention of IUU which is a massive issue, as is gaps in knowledge from artisanal fisheries. In addition, the focus of MSY on a single target species rather than ecosystem. Papers like this - https://www.nature.com/articles/ncomms10244 - suggest the problem is	Thanks, your comment was considered when rewriting the Fishing section.
843	Doering, Ralf	3	70	1775	70	1777	I don't think that MSY was mentioned before but it is the agreed target from the Johannesburg declaration 2002 for all fish stocks worldwide. That means that sustainable harvest is defined as fishing on a level allowing MSY. The problems starts when that level is not known - which is the case for many data poor fisheries.	Thank you for your comment. We fully agree with your comment. The new version of this assessment includes a section dedicated to fishing and the use of formal and informal knowledge for fish stock assessment and management is widely discussed.
844	Doering, Ralf	3	71	1782	71	1782	The target rate is called 'Fishing mortality (F)', the rate is Fmsy, the fishing mortality that allows the stocks to grow or stay on MSY-level. This means that there can be fluctuations in stock size but fishing on the level of Fmsy means that the catch will also fluctuates and allows the stock, in case the stock level decreased, to grow back to MSY size.	Thank you for your comment. As fisheries scientists, we grasp the subtleties of the metrics and indicators we use. In the newly restructured "fishing section", we tried our best to clearly show what are the status and trends in the global fisheries, with a focus on some case
845	Kenward, Robert	3	71	1794	71	1794	"of" should be 'or'	Thank you for this comment. This was corrected in the Second Order Draft.
846	López-Castro, Melania	3	71	1797	71	1799	Although no global analysis exist, it is important to include local studies and of different scales. For example, in most small scale fisheries, fishing effort has increase due to the reduction of fish abundance; making this activity unsustainable. Please review SALAS, S., CHUENPAGDEE, R., SEIJO, J.C., AND CHARLES, A. 2007. Challenges in the assessment and	Thanks for this comment. A newly written subsection dedicated to small scale fisheries reviews case studies worldwide
847	Doering, Ralf	3	72	1815	72	1819	As I have mentioned in my general comment to Chapter 1 this example is one of many where an overall assessment of the stocks worldwide was tried. I am not doubting the results of this study but the question is how representative this overview can be at the end as the number of commercially viable species (or species in subsistence fisheries) is much	Thank you for your comment. This issue is discussed in the fishing section.
848	Kenward, Robert	3	73	1823	73	1825	More explanation of Figure 3.18 is needed.	Thanks for this suggested change but it is no longer relevant as the figure has been removed.
849	Skern-Mauritzen, Mette	3	73	1826	73	1830	I suggest to be more explicit on where the model performance were good and where it was less good; so we understand the background for the conclusion in the following paragraph; that half of the world's catch is from southeast Asia and that the models do not give any information on the state of these stocks	Thank you for your comment. This section has been completely rewritten. The issue of poorly known fish stocks status is discussed.
850	Doering, Ralf	3	74	1848	74	1850	This figure suggests that we have only a small number of stocks where we need to fish less. Alone in Europe we have many stocks still overfished which are not at the level of MSY at the moment and where less fishing would help to increase the stock size to MSY with higher catches.	Thank you for your comment. This section with associated figure has been revised.
851	Kenward, Robert	3	74	1854	74	1854	It is hard to understand how stocks that have declined 2/3 can be at MSY. Rephrase?	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.

852	Jungwiwattanaporn, Megan	3	74	1857	79	1975	Chapter 3 does not include any mention of bycatch or the conservation status of bycatch species. Bycatch often has a large impact on ecosystems and within fisheries. The effect of bycatch should be explored.	Thank you for your comment. A review of vulnerable bycatch in the reserch priorities sectio, and in the tuna/billfish case study were added in the Second Order Draft.
853	Butchart, Stuart	3	74	1857			it is fine to have some case studies, but only if comlemented by some global quantitative analysis. It is easy enough to extract data from the IUCN Red List on tens of thousands of species, with information on their use (from the Use classification scheme), extinction risk (IUCN Red List category), trends, and the degree to which use threatens them (from the	Thanks for this comment. The analyses have been significantly updated in the SOD.
854	Demissew Sebsebe	3	74	1857			3.4.2 Status and trends in social-ecological systems of wild species use provides the evidence for the implications for wild species, the environment and people. As indicated above, it should be refelcted in the executive summary,	Thank you for your comment. The executive summary is significantly revised in the SOD.
855	Doering, Ralf	3	74	1858	79	1975	I think on one side the tuna and billfish species are a very good example for the problems of overfishing etc. as it is such a prominent species group with huge markets worldwide. On the other side, the tuna species are highly migratory species managed by large regional fisheries management organisations (including the international tuna commission)	Thank you for your comment. The case study of the tuna and billfish fisheries has been retained in the Second Order Draft- it provides a useful illustrative example of how marine capture fisheries can be managed to achieve ecological and socioeconomic sustainable use
856	Skern-Mauritzen, Mette	3	75	1872	75	1880	Please base the statistics presented in this section on more recent literature, as 10 year old statistics may not reflect current situation	Thank you for your comment. This section of the SOD has been revised and updated, and includes recent citations to document the contemporary status of stocks.
857	Skern-Mauritzen, Mette	3	76	1909	76	1933	I find this section very difficult; it seems to be a list of all potential negative impacts of fisheries on large pelagics, yet no assessment of what are the most important issues. Also, it is my understanding that through changing regulations these fisheries has reduced their bycatch substantially, and that many of these fisheries are certified and hence	Thank you for your comment. While there has been progress in adopting binding measures on bycatch for some vulnerable species, there has been minimal uptake. This case study scope does not include a review of the history of management measures of tuna
858	Serge Michel Garcia	3	76	1917	76	1917	Replace Goni by Goñi	Thank you for this comment. This was corrected in the Second Order Draft.
859	White, Michael	3	76	1921	76	1924	Huge problem for Pacific Islands: stranded fishing gear everywhere (especially FADs). Also overwhelmed by oceanic plastics ~ truly a nightmare	Thank you for your comment. We agree, derelict FADs from tuna purse seine and pole-and-line fisheries, and more generally marine debris from fishing vessels, is a chronic priority problem. It is however outside the scope of this case study section
860	Fisher, Sue	3	68	1933	69	1934	Great to see this box, but the issue of ecosystem function should be better incorporated into the main text - i.e. that extractive use of wild species will affect the roles they play in their ecosystems and, in some cases, for example carbon sequestration, the functions they serve globally. And that non-extractive use of species is in itself a sustainable	Thanks for this suggested change but it is no longer relevant as thebox has been removed.
861	Doering, Ralf	3	77	1933	77	1933	In many cases higher stocks of prey species of cod have also let to an increase in fishing on those stocks.	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
862	Serge Michel Garcia	3	78	1952	78	1953	"there is no relationship between recruits 1952 and the abundance, biomass and egg production by adult age classes". This is too strong. The point is that the environmental factors which affect the Stock-recruitment relationship are so strong that they tend to mask the relationship. And this will be seen when stocks are driven at very low	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
863	Kenward, Robert	3	81	1999	81	2002	Full x-axis labels must be shown.	Thanks for this suggested change but it is no longer relevant as the figure has been removed.
864	López-Castro, Melania	3	81	2000	81	2002	Please describe what the x axis represents in the graph	Thanks for this suggested change but it is no longer relevant as the figure has been removed.
865	López-Castro, Melania	3	82	2028	82	2038	Might be worth mentioning if any study has been conducted using this steps and if results were favorable for the management of palm species	Thank you for making this point. We have included it in the new version.

866	Pilling, Dafydd	3	82	2029	83	2049	This material about methodology and sources reads strangely in the context. Is it intended as a placeholder for a more fully developed text?	Thank you for your comment. We reorganized some sections of the chapter and included more examples of other species different from palms. We also edited the text you mentioned, which now is in section 3.3, but for length restrictions, we cannot add additional text in this
867	Germany	3	82	2030	83	2049	In situ management in genetic reserves may be considered for palm species (see e.g. Frese et al. 2018; Kell et al. 2012). Frese, L., Bönisch, M., Nachtigall, M., Schirmak, U., 2018. Patterns of genetic diversity and implications for in situ conservation of wild celery	Thank you for the references. We have added the Kell et al., reference in th Second Order Draft.
868	Pilling, Dafydd	3	83	2064	83	2064	Compared to the plant and aquatic examples above, this one (apparently all terrestrial animals hunted for food anywhere in the world) seems rather a wide topic for a case study. There are already a quite lengthy discussions of hunting in Sections 3.3.3.4 and 3.3.2.2.3 and to some extent also in Section 3.3.1.1.1 and 3.3.1.1.2. Perhaps you might	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
869	Bélanger, Julie	3	83	2066	83	2069	The examples of 'wild meat' provided seem to imply that there are terrestrial fish since the definition refers to terrestrial animal wildlife used for food.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
870	Pilling, Dafydd	3	84	2084	84	2084	What "sampled human population"?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
871	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2085	84	2085	This is misquoted, this is not what the report says	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
872	Germany	3	84	2086	84	2088	It does not become clear to which region/ country the "rural south" is referring to. Regions have been named but not in connection with the source from this statement. You may wish to provide more information.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
873	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2086	84	2085	Again, not true. Communities are more dependent on wild meat in the global south.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
874	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2087	84	2087	other districts -?? Countries? Reference?	Thanks for your comment. We have improved the text in the new version.
875	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2088	84	2098	The section "Wild meat makes a crucial contribution to food security in places and at times when other food supply chains fail, and wild meat represents the sole or primary source of protein available (Rushton et al. 2005; Coad et al., 2019). For example, it can become a vital 'safety net' in times of economic hardship, civil unrest, drought or disruption in the	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
876	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2088	84		Misquoting the report	Thank you for this reference. This was taken into account in the Second Order Draft.
877	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2088	84	2098	Reproduced from Coad et al 2019. Page 27	Thank you for this reference. This was taken into account in the Second Order Draft.
878	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2099	84	2099	These? Define what the new para is refering to?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
879	Erb, John	3	84	2099	84	2112	Similar to some of my previous comments, I would prefer these statements be re-directed. Unsustainable <i>anything</i>is unsustainable. Unsustainable hunting is a symptom of a problem, and that problem is insufficiently regulated hunting, be it due to insufficient funding, political will, or system knowledge. But when you focus on the symptom	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.

880	Damayanti, Elyn	3	84	2103	84	2103	According to Chapman and Peres (2001). --> ??? Incomplete sentence?	Thank you for this comment. This was improved in the Second Order Draft.
881	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2103	84	2104	Check sentence for 'according to repeat...'	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
882	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2103	84	2106	The section "According to Ripple et al. (2016), 301 mammals are threatened by hunting globally: 113 species are in Southeast Asia 2104 (13% of all threatened mammals are east of India and south of China) and 61 in the rest of Asia (7%) with 91 in Africa (8%), 38 in Latin America (3%) and 32 in Oceania (7%)." is taken directly from the	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
883	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2103	84	2108	The same as written in section 5.1 of the CBD SBSTTA report on wild meat (of which Coad et al 2019 is a companion piece): https://www.cbd.int/sbstta/sbstta-21-wg8j-10/CIFOR-CBD-wildmeat-info-doc-review-en.pdf	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
884	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2104	84	2104	301 mammals are threatened by hunting globally???	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
885	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2108	84	2109	Miss-understanding of what is being said by these authors. They are saying while rare species may not be targeted, even a small offtake can have a large impact	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
886	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2110	84	2112	The section "At least 12 large vertebrate species have been extirpated from forests in Vietnam since 1975 (Bennett & Rao 2002b), and 25 of India's large mammal species are likely heading in a similar direction (Karat et al. 2010)." is taken directly from the following source: https://www.cbd.int/sbstta/sbstta-21-wg8j-10/CIFOR-CBD-wildmeat-info-	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
887	Kathryn Phillips (on behalf of UNEP - WCMC)	3	84	2110	85	2112	Same as SBSTTA report page 27	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
888	Kathryn Phillips (on behalf of UNEP - WCMC)	3	85	2113	85	2114	Citation Coad et al or Brown/Robinson?	Thank you for this comment. Citations were corrected and improved in the Second Order Draft.
889	Kathryn Phillips (on behalf of UNEP - WCMC)	3	85	2114	85	2134	The section "Comparisons between the maximum potential production of wildlife populations and known extraction rates (from hunter bag data or extrapolations from these) have allowed some authors to investigate whether overall hunting levels are likely to be sustainable. Extraction-production models. used to determine wildlife exploitation	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
890	Kathryn Phillips (on behalf of UNEP - WCMC)	3	85	2114	85	2134	Copied from Coad et al 2019, page 48; even refers to Table 2, modified from Cawthorn and Hoffman, which is the text from Coad et al. 2019.	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
891	Kathryn Phillips (on behalf of UNEP - WCMC)	3	85	2117	85	2125	Discussion of sustainability analysis could be simplified to a couple of sentences here.	Thanks for your comment. We have improved the text in the new version.
892	Kathryn Phillips (on behalf of UNEP - WCMC)	3	85	2135	85	2149	The section "The first step toward sustainable management in many countries will rely on consultation with all stakeholders in order to revise national hunting laws and land tenure governance systems (Coad et al., 2019).	Thanks for your comment. It do helped to improve the text for the new version.
893	Kathryn Phillips (on behalf of UNEP - WCMC)	3	85	2135	85	2149	Copied from Coad et al 2019, page viii	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.

894	Kathryn Phillips (on behalf of UNEP - WCMC)	3	85	2150	86	2157	The section "In the past, customary hunting management often involved a rotation of hunting areas: when wildlife became depleted in one area, people moved hunting grounds or villages to other areas, allowing prey populations to recover. This is still the case for some peoples (Huertas Castillo 2004). However, this becoming less common as previously	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
895	Kathryn Phillips (on behalf of UNEP - WCMC)	3	85	2150	86	2157	Copied from Coad et al 2019, page 4	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
896	Kathryn Phillips (on behalf of UNEP - WCMC)	3	86	2158	86	2166	The section "Species responses to hunting pressure are not uniform, with some species being exceptionally vulnerable. These tend to be large-bodied and long-lived species with low intrinsic rates of population increase and long generation times, such as elephants, large carnivores, buffalo, primates, tapirs and other large ungulates (Van Vliet et al. 2007;	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
897	Kathryn Phillips (on behalf of UNEP - WCMC)	3	86	2158	86	2166	Taken from page 26 of the SBSTTA report : https://www.cbd.int/sbstta/sbstta-21-wg8j-10/CIFOR-CBD-wildmeat-info-doc-review-en.pdf	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
898	Erb, John	3	86	2159	86	2166	As was noted in other places, small species, for example if habitat specialists or lower reproductive potential, can also be vulnerable. It is not as simple as large = vulnerable and small = not vulnerable.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
899	Fisher, Sue	3	86	2160	86	2160	Please include cetaceans too.	Thank you for your comment. Please see cetaceans in the fishing section.
900	Kathryn Phillips (on behalf of UNEP - WCMC)	3	86	2167	86	2176	The section "Larger animals are the most favoured and lucrative species to hunt, as these deliver more meat per capture compared with smaller species (Redmond et al. 2006), and so they are typically targeted first by hunters (Maisels et al. 2001; Lindsey et al. 2013; Constantino 2016; Coad et al., 2019). As populations of larger animals decline, the time and	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
901	Kathryn Phillips (on behalf of UNEP - WCMC)	3	86	2167	86	2176	Coad et al 2019, page 15	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
902	Erb, John	3	86	2177	86	2178	This may be true, but is partially a byproduct of inferior technology in developing countries. For example, I often hear talk of how snares set for other species are a problem for larger animals in some countries. I cannot speak to the accuracy or significance of this problem, but there is technology commonly used/required in the U.S. to allow selective release	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
903	Kathryn Phillips (on behalf of UNEP - WCMC)	3	86	2177	86	2182	The section "The prominence of larger-bodied ground-dwelling mammals in African forests (60% of species are >1 kg and only 20% are arboreal) can explain their greater vulnerability to indirect hunting techniques, such as traps, nets and snares in comparison with Amazonian forest species, where more species are small-bodied (38% of species >1 kg) and	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
904	Kathryn Phillips (on behalf of UNEP - WCMC)	3	86	2177	86	2182	Coad et al 2019, page 14	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
905	Kathryn Phillips (on behalf of UNEP - WCMC)	3	86	2183	87	2199	The sections "Such changes in mammalian fauna can impact ecosystem structure and processes. Often, large-bodied species are keystone species playing crucial roles in modifying vegetation composition and structure, including forest succession and regeneration patterns (Babweteera et al. 2007; Beaune et al. 2013; Effiom et al. 2013;	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
906	Kathryn Phillips (on behalf of UNEP - WCMC)	3	86	2183	87	2190	mostly copied from SBSTTA page 29	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
907	Adeline Lerambert	3	86	2183	87	2199	This is a useful summary of the impacts of hunting on ecosystem services, but it could be further developed - what is the mechanism leading to reduced ecosystem services with wild animal loss (i.e.: species interactions changes, animal-flora interactions changes, functional diversity reduction/loss, functional redundancy/compensation, etc.); why	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.

908	Fisher, Sue	3	86	2184	86	2184	Please note that large biomass marine species are significant repositories of carbon and drive primary production in the oceans. See Roman, Joe & Estes, James & Morissette, Lyne & Smith, Craig & Costa, Daniel & McCarthy, James & Nation, James & Nicol, Stephen & Pershing, A. & Smetacek, Victor. (2014). <i>Whales as marine ecosystem</i>	Thank you for your comment. Please see cetaceans in the fishing section.
909	López-Castro, Melania	3	87	2190	87	2192	Reductions of prey availability for larger carnivores can also increase conflicts with humans, particularly with cattle raising activities that often results in the killing of these large carnivores increasing the vulnerability of their populations. See: (1) Zimmermann, Alexandra, et al. "Contemporary views of human-carnivore conflicts on wild rangelands."	Thank you for your comment. This is included in the final draft.
910	Kathryn Phillips (on behalf of UNEP - WCMC)	3	87	2190	87	2199	after Estes and Terbough I cant find a direct copy....I'm sure its there though!	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
911	Kathryn Phillips (on behalf of UNEP - WCMC)	3	87	2200	87	2200	First line top of page 3	Thank you for this comment. Citations were corrected and improved in the Second Order Draft.
912	Kathryn Phillips (on behalf of UNEP - WCMC)	3	87	2200	87	2204	The section "Research on development policies, particularly that associated with the SDGs, has highlighted the important role that wild meat plays in human livelihoods and wellbeing (Coad et al., 2019). Hunting is necessarily connected to society (van Vliet et al. 2015b) and sustainability hinges on the feedback and balances between social and	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
913	Kathryn Phillips (on behalf of UNEP - WCMC)	3	87	2202	87		Second line end of page 8	Thank you for this comment. Citations were corrected and improved in the Second Order Draft.
914	Kathryn Phillips (on behalf of UNEP - WCMC)	3	87	2205	87		page 35	Thank you for this comment. Citations were corrected and improved in the Second Order Draft.
915	Kathryn Phillips (on behalf of UNEP - WCMC)	3	87	2205	87	2214	The section "In remote rural villages where wildlife remains abundant and alternatives are scarce and expensive, wild meat is likely to remain a significant proportion of dietary protein intake (Fa et al. 2003; Coad et al., 2017). As settlements get farther away from the sources of wildlife, the amounts of wild meat consumed generally fall as the cost of procuring	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
916	Kathryn Phillips (on behalf of UNEP - WCMC)	3	87	2209	87		Page 2	Thank you for this comment. Citations were corrected and improved in the Second Order Draft.
917	Morgan, David (on behalf of CITES)	3	87	2215	87	2222	The statistics on the value of the annual trade in this paragraph should be merged with those in the last paragraph (lines 2231 to 2236).	Thank you for this reference. This was taken into account in the Second Order Draft.
918	Kathryn Phillips (on behalf of UNEP - WCMC)	3	87	2215	87	2222	The section "Wild meat harvest and trade are often excluded from official statistics (Wood et al., 2005) but the economic value of annual trade has been estimated at, for example, over US\$175 million for the Amazon Basin (Rao & McGowan, 2002), US\$200 million for Côte d'Ivoire (Rao & McGowan, 2002), and €97 million for Cameroon (Lescuyer & Nasi,	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
919	Kathryn Phillips (on behalf of UNEP - WCMC)	3	87	2223	87	2226	The section "Urban dwellers generally pay higher prices than rural consumers. This encourages hunters in rural villages to hunt more animals for sale. Likewise, urban demand drives the proliferation of purely commercial hunters, some forming parts of highly-organized groups engaged in the illegal trade of wildlife products (Box 3.8)." is	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
920	Adeline Lerambert	3	88	2228	88	2230	Note Chaber et al. 2010. The Scale of Illegal Meat Importation from Africa to Europe via Paris. Conservation Letters 3(5), 317-321, which estimated a weekly importation of 5 tonnes of bushmeat through Paris CDG airport in hand baggage	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
921	Morgan, David (on behalf of CITES)	3	88	2228	88	2290	This sentence implies that international trade in wild meat is all illegal, but many wild species are legally traded as "meat".	Thank you for this reference. This was taken into account in the Second Order Draft.

922	Kathryn Phillips (on behalf of UNEP - WCMC)	3	88	2231	88	2236	The section "The value of the total harvest of wildlife across the world has been estimated at US\$400 billion annually (Brashares et al. 2014). Regional and national estimates (most 10–20 years out of date) include US\$175 million for the Amazon Basin (Tratado de Cooperacion Amazonica 1995). US\$200 million for Côte d'Ivoire (Lamarque 1995).	Thanks for your comment. We will rewrite the sentence and cite this reference precisely.
923	't Sas-Rolfes. Michael	3	89	2236			The content of Box 3.8 might benefit from some input from the following recent review on the topic: 't Sas-Rolfes, M., Challender, D.W.S., Hinsley, A., Verissimo, D., Milner-Gulland, E.J., 2019. Illegal Wildlife Trade: Scale, Processes, and Governance. Annual Review of Environment and Resources 44, 201–228.	Thank you for your comment. However, illegal activities are not considered in this Chapter anymore
924	Kenward, Robert	3	89	2236	89	2237	In Box 3.8, meaning of "... commercially 12 orientated...?"	Thanks for this suggested change but it is no longer relevant as the box has been removed.
925	Fisher, Sue	3	90	2238	90	2238	Another opportunity to refer to the sustainability of non-extractive use for the purpose of maximizing ecological functions.	Thank you for your coment. The draft text and systematic review for non-extractive use was still in development. This section has now been completed for the SOD.
926	Damayanti, Ellyn	3	90	2238	90	2238	3.4.3.2 Extractive and non-extractive use --> draft content is not ready?	Thank you for your comment. The draft text and systematic review for non-extractive use was still in development. This section has now been completed for the SOD.
927	Germany	3	90	2238	90	2238	No information is provided under the header 3.4.3.2 "Extractive and non-extractive use". The three case studies [outlined in Box 3.8] illustrate how status and trends in usage of wild species are being assessed for each single case. However, this should be followed by key take aways and general	Thank you for your comment. The draft text and systematic review for non-extractive use was still in development. This section has now been completed for the SOD.
928	Stiles, Daniel	3	90	2238			3.4.3.2 Extractive and non-extractive use - Is there going to be another repetitive section here?	Thank you for your comment. The draft text and systematic review for non-extractive use was still in development. This section has now been completed for the SOD.
929	Fokam, Eric	3	91	2239	97	2496	On good track and will be further assessed when SOD will be developed.	Thank you for your comment. The positive feedback is greatly appreciated by the chapter authors.
930	Stiles, Daniel	3	92	2288	92	2300	Measuring ecosystem changes as the unit of analysis seems to go beyond the focus of this assessment, which is wild species. Ecosystems also involve climatic factors, soils, ground water, etc. The units of analysis should be appropriate to wild species and use indicators capable of measurement, which are found at more local levels.	Thank you for your comment. We cannot address this question due to lack of clarity in it. We have referred to social-ecological system as unit of analysis, not ecosystem, as commented by the referee. We have already clarified that 'using individual resource systems
931	Doering, Ralf	3	93	2314	93	2315	In fisheries there is only a limit debate on distributional effects of e.g. the distribution of fishing rights or specifically the effects of the introduction of tradeable permits. See Döring R, Goti L, Fricke L, Jantzen K (2016) Equity and ITQs: About fair distribution in quota management systems in fisheries. Environ Values 25(6):729-749	Thank you for your comment, which seems to show agreement with what we have written in the chapter. We have added your suggested text and the reference to the chapter.
932	Demissew Sebsebe	3	93	2320	2328		the paragraph needs a reference	Thank you for your comment. We have added a relevant references to the paragraph: Nayak, P. K., Armitage, D. 2018. Social-ecological regime shifts (SERS) in coastal systems. Ocean and Coastal Management 161 (2018) 84–95. https://doi.org/10.1016/j.ocecoaman.2018.04.020
933	Kathryn Phillips (on behalf of UNEP - WCMC)	3	93	2329	93	2329	Not clear which case studies being referred to. There is a large conversation around costs/benefits of trade regulation affecting sustainable use (and therefore livelihood impacts) for IPLKs within the CITES realm - a number of case studies would be relevant here. This may be discussed in following chapter 4 (e.g., as line 2380 suggests)- is	Thank you for the comment. We have not made any changes as it belongs to chapter 4, as you have suggested. However, we have deleted 'The case studies will suggest that' from the text in the chapter.
934	Serge Michel Garcia	3	93	2336	93	2336	4. Power dynamics and politics of use. In this section or elsewhere, it would be important to stress the difference (for the probability to achieve sustainable use) between really traditional communities and communities which (explicitly or not) have adopted modern market economy principles (and nast biases). This was shown in Trochs fisheries in various islands	Thank you for your comment. We are unable to address it as it is beyond the scope of our analysis here.
935	Ehara, Makoto	3	52	2369	52	2373	Should the "Governance refers to" be "Environmental governance refers to" because Biermann et al. (2009: 4) refer only "environmental change" and not other changes?	Thank you for your comment. This comment is inconsistent with the text is referencing in the First Order Draft and is therefore disregarded since we cannot find the section. It is highly likely it has been revised either way.

936	Ehara, Makoto	3	94	2376	94	2377	This final part of the paragraph is important because it argues the direct impacts of responses taken by local users on natural resource management. However, these lines lack how the governments or natural resource management agencies address the issue. So I added an additional lines to support this paragraph:	Thank you for the useful comment and your contributing sentence, which we have added to the chapter.
937	Pilling, Dafydd	3	94	2383	94	2383	What is this statement about what governance "will" do based on?	Thank you for you question. The statement referes to the need for governance to steer scoail transformations in relation to sustainable use. No revisions possible here.
938	Newing, Helen	3	95	2385	97	2496	I think that one more knowledge gap is in related to cross-disciplinary frameworks and methodologies for assessing use. There is a long-term debate about whether economic valuation methodologies alone can encompass all kinds of value, especially in cross-cultural comparisons. Anthropological perspectives offer very different perspectives.	Thank you for this comment. This was improved in the Second Order Draft.
939	Kenward, Robert	3	95	2387	95	2387	"gap" should be plural.	Thank you for this comment. This was changed in the Second Order Draft.
940	Pilling, Dafydd	3	95	2399	95	2400	This seems to be a policy gap rather than a knowledge gap.	Thank you for this comment. This was improved in the Second Order Draft.
941	Pilling, Dafydd	3	95	2406	95	2406	References for these recent reviews?	Thank you for this comment. Citations were corrected and improved in the Second Order Draft.
942	Pilling, Dafydd	3	95	2409	95	2409	What "systematic map"?	Thanks for this suggested change but it is no longer relevant as the statement has been removed.
943	Doering, Ralf	3	95	2412	96	2427	The econmic valuation of e.g. ecosystem services or wild species should be implemented with care. It can't be that at the end the economic value is the main criteria how we manage the ecosystems or species.	Thank you for this comment. This was improved in the Second Order Draft.
944	Fisher, Sue	3	95	2413	95	2413	Please refer to IPBES' own assessments of biodiversity and ecosystem services!	Thank you for this comment. This was improved in the Second Order Draft.
945	Pilling, Dafydd	3	96	2428	96	2433	More or less the same text appears above	Thank you for this comment. This was improved in the Second Order Draft.
946	Fisher, Sue	3	96	2430	96	2430	This article is pertinent: Global modeling of nature's contributions to people Gretchen C. Daily Mandle, Henrique M. Pereira, Stephen Polasky, Mary Ruckelshaus, M. Rebecca Shaw, Jessica M. Silver, Adrian L. Vogl and	Thank you, this is a good suggestion. This is included in the final draft.
947	Fisher, Sue	3	96	2438	96	2439	An example of slow recovery would be good here. Blue whales were subject to intensive commercial whaling, with over 380,000 blue whales taken in 1868-1978, mostly from Antarctic waters. Current global population abundance is estimated to be 10,000-25,000 blue whales which, six decades after commercial whaling was prohibited, is still only 3-	Thank you for the useful comment. This is included in the final draft.
948	Pilling, Dafydd	3	97	2465	97	2466	"Data is missing on the sustainable or unsustainable collecting of insects": is this not an example of "Inadequate existing information on trends in use of some specific groups of wild species" as per line 2434?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
949	Pilling, Dafydd	3	97	2480	97	2480	This heading seems to have some overlap with the topic of the paragraph starting at line 2401	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.

950	Serge Michel Garcia	3	97	2480	97	2480	No solid mechanism of knowledge transfer from indigenous communities to scientific communities. Fine but the converse should not be forgotten if a sustainable dialogue is aimed at.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
951	Pilling, Dafydd	3	97	2488	97	2491	This could possibly be given its own subheading. It refers more literally to an (expanding) knowledge gap than do some of the other subheadings here. And once the knowledge is lost there is no chance of integrating, transferring, representing it, etc. in/to policy documents, environmental research, scientific communities, etc. as per the paragraphs above.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
952	Kathryn Phillips (on behalf of UNEP - WCMC)	3	97	2494	96	2496	Unclear sentence/statement. Side effects or externalities of protected areas? For whom? The species/people using/affected by regulation etc?	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
953	Özden Görücü	3	98	2499	98	2499	What is the content of the part of the Discussion. It is actually blank in the text so far. It should be completed and then reviewed by us.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
954	Fergusson, Richard	3	118	3222	118	3222	https://doi.org/10.5751/ES-07823-200340 - goes to another paper	Thank you for your comment. The correct doi: http://dx.doi.org/10.5751/ES-07823-200340 is now referenced.
955	Fergusson, Richard	3	127	3583	127	3583	https://doi.org/10.1505/146554811798293872 - goes to another paper	Thank you for your comment. The correct ISSN: 1465-5489 is now referenced.
956	Kathryn Phillips (on behalf of UNEP - WCMC)	3	134	3834	134	3834	DOI link to wrong paper	Thank you for your comment. The correct DOI: 10.1641/0006-3568(2005)055[0256:CIETIO]2.0.CO;2 is now referenced.
957	White, Harold	3	142	4101			Need to include data from North America and other countries in the Annex	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
958	Stiles, Daniel	3	83	2064ff			Lots of repetition from Hunting and from Food & Feed above. In fact, the way this assessment is organized there is considerable duplication throughout.	Thank you for your comment. We reorganized some sections of the chapter and we are avoiding duplication of information in the new version.
959	Stiles, Daniel	3	83	2064ff			Lots of repetition from Hunting and from Food & Feed above. In fact, the way this assessment is organized there is considerable duplication throughout.	Thank you for your comment. We reorganized some sections of the chapter and we are avoiding duplication of information in the new version.
960	Stiles, Daniel	3	23	603 ff			Cycads would make a good addition to Plants, there is a large literature.	Thank you for your comment. The Second Order Draft has been revised substantially and this comment has been addressed.
961	Stiles, Daniel	3	27	737ff			Ecotourism should be defined. To qualify as ecotourism, there should be strict limitations on numbers of visitors allowed and various lodging practices that minimize impact (solar/wind power, waste recycling/removal, etc.). There are good examples from Kenya, e.g. https://www.porini.com/about-us/awards-and-news-articles/ .	Thank you for your comment. Please refer to the glossary for the definitions of this term.
962	Kathryn Phillips (on behalf of UNEP - WCMC)	3	0	Arctic and polar			There is a rich literature on use in the Arctic regions of Greenland and Canada and Europe and Russia that links to sustainable use and the perceptions of abundance by indigenous people and scientists. Papers from Finn Danielsen on Arctic should get one into the literature. Also things like this	Thank you for this comment. This was improved in the Second Order Draft.
963	Cooney, Rosie	3	29	Box 3.1	29	Box 3.1	This again doesn't appear very balanced - nothing on the disturbance impacts of whale-watching is presented. Also, the assumption that benefits are locally shared are unlikely to be true in many cases, and some actual evidence of local non-commercial benefit of whale-watching enterprises should be presented if this conclusion is to be drawn.	Thank you for this comment. We agree that the "dark side" of recreational use was not sufficiently addressed in the document. We have considerably revised this section and feel that the section is more nuanced in its approach to non-extractive practices.

964	Tonon, Kylie	3	29	Box 3.3	30	Box 3.3	This box highlights that Whale watching is a highly positive and non-invasive way to gain income for tourist operators (particularly in developing countries) and may lead to achieving sustainable development goals.	Thank you for this comment. Please see the revised definition of both Non-extractive practices (Chapter 1) and Wildlife viewing (Chapter 3) where we acknowledge that this includes interaction such as feeding and touching. This issue have been raised in our discussions.
965	Anthony, Brandon P.	3	89	Box 3.8	90	Box 3.8	consider including le Roux et al 2019 [le Roex, N., Dreyer, C. and Ferreira, S. M. 2019. Poaching creates ecological traps within an iconic protected area. Animal Conservation XX (X):in press.]	Thank you for your comment. However, illegal activities are not considered in this Chapter anymore.
966	Adeline Lerambert	3	89	Box 3.8			The value cited of US\$7-23 billion excludes illegal fishing and timber trade.	Thanks for your comment. We have improved the text in the new version.
967	Jungwiwattanaporn, Megan	3	89	Box 3.8	90	Box 3.8	Box 3.8 discusses Wildlife Trafficking. The examples seem to focus on hunting/wild meat trade, but no other species or uses. The box could be renamed or reference could be given to other parts of Chapter 3 (ornamental fish trade, rhino, sharks, rays, orchids, etc)	Thanks for your comment. We have improved the text in the new version.
968	Kathryn Phillips (on behalf of UNEP - WCMC)	3	0	General			Chapter seems very heavy on wild meat use. But rather weak on other forms of recreational and subsistence hunting in Europe and USA, And also on trophy hunting in Africa and elsewhere.	Thank you for this reference. This was addressed in the Second Order Draft.
969	Kathryn Phillips (on behalf of UNEP - WCMC)	3	0	General			Key paper on centres of unsustainable use that can inform this chapter https://advances.sciencemag.org/content/5/4/eaau2879?utm_source=TrendMD&utm_medium=cpc&utm_campaign=TrendMD_1	Thank you for this suggestion. This assessment focuses on sustainable use of wild species, rather than unsustainable use.
970	Kathryn Phillips (on behalf of UNEP - WCMC)	3	0	Indicators of Sustainable use			The CBD has agreed indicators of Sustainable use that use the Living Planet Index and the Red List Index. These should be updated and presented here. Basic information in https://www.cbd.int/gbo4/ and also in the online material for http://wormlab.biologv.dal.ca/publication/view/tittensor-d-walpole-m-hill-s	Thanks for this comment. In section 3.2 we revised indicators (SDGs,CDB, IPBES)
971	CAMARENA, Maria	3	29	NA	29	NA	The box makes reference to "watching", whereas the categorization to assess SU in the conceptual Chapter 1, mentions "viewing". Chapters must ensure consistency in these concepts.	Thank you for highlight the inconsistency. We have endeavoured to be more consistent in our terminology across the assessment.
972	Kathryn Phillips (on behalf of UNEP - WCMC)	3	13	Table 3.2	14		Should be updated using CIETS trade database https://trade.cites.org/ and Harfoot et al. 2018 in Biological Conservation https://www.sciencedirect.com/science/article/pii/S0006320717312478	Thanks for this suggested change but it is no longer relevant as the table has been removed.
973	Kathryn Phillips (on behalf of UNEP - WCMC)	3	0	Trends in used and non used species			This is really the only paper that looks at this issue in a critical way: https://www.cambridge.org/core/journals/oryx/article/use-it-or-lose-it-measuring-trends-in-wild-species-subject-to-substantial-use/CA216E019050DCED46F33C8317A0EC76 The ZSL Living Planet Team are repeating this for the 2020 Living Planet Report - so I would	Thank you for your comment. This paper is now included in section 3.2
974	Kathryn Phillips (on behalf of UNEP - WCMC)	3	0	Wild meat summary			This CBD document is a super overview and packed with data https://www.cbd.int/doc/c/8ca9/8f95/d06a6f4d99339baebd13648a/cop-14-inf-07-en.pdf	Thank you for this reference. This was taken into account in the Second Order Draft.
975	Kathryn Phillips (on behalf of UNEP - WCMC)	3	0	Wildlife trade			A couple of other papers that summarise trade into USA and EU markets : https://www.cambridge.org/core/journals/oryx/article/thirtysix-years-of-legal-and-illegal-wildlife-trade-entering-the-usa/17D97781D94B8878D69313C1FFA982EE/core-reader and this https://www.biorxiv.org/content/10.1101/726075v1.abstract and this	Thank you for your comment. However, illegal activities are out of scope of our Chapter
976	Germany	3	1		2		The executive summary reads like the outline of the ch as it doesn't present results or key messages but rather what the reader will find in each section of the ch. We assume that the SOD will be considering these aspects in the executive summary.	Thank you for your comment. We have thoroughly revised the section.
977	Gopalsamy Poyyamoli	3	7		7		Point 34- line 1 - replace and current with currently - should read as are available currently	Thank you for this comment. This was corrected in the Second Order Draft.

978	Germany	3	10				Governance context needs to be included in 3.2.	Thank you for your comment. Chapter 4's section on governance and all Chapter 6 addresses this comment.
979	Sousa Pinto, Isabel	3	17		17	461	Figure 3.2 is very interesting but thick and thin blue lines are difficult to distinguish and data is from 1997!!!! In no recent data can be collected for an update figure then maybe they could be erased and the figure could be just conceptual? But FOA has all this data from 2017 or 18. With increase in aquaculture (now about 50% of fish) but the	Thank you for your comment. We eliminated the figure, and we reorganized the data, text, and figures in section 3.3.
980	López-Castro, Melania	3	18		18		In figure 2, there are no arrow tips that indicate directions. It might help the viewer to have them even though direction is explained in the figure legend	Thanks for this suggested change but it is no longer relevant as the figure has been removed.
981	Kathryn Phillips (on behalf of UNEP - WCMC)	3	29		30		Box 3.3 could also benefit from some reorganisation - suggest starting with para 3 then 2 (with some additional information and references regarding positive and negative outcomes for local communities - given the wider objective in the SUA re IL**) then details from 1 with some further balance on positive and negative outcome for species	Thanks for your comment, this section was thoroughly reorganised in the SOD.
982	Lascurain Maite	3	32			864	Perhaps see more in: Wiersum, K. F., Wong, J. L. G., & Vacik, H. (2018). Perspectives on non-wood forest product development in Europe. International Forestry Review, 20(2), 250-262.	Thanks for comments, it has been included in the section.
983	Kathryn Phillips (on behalf of UNEP - WCMC)	3	33		33		Example 3.4. Not clear from the text how/why the traditional harvesting techniques and processing methods assist in sustainable use - esp when challenged by increased demand/pressures as written towards the end. Do the harvesting techniques allow for effective re-growth? Do the processing methods constrain production and therefore off-take? Etc and	Thank you for this comment. This section was thoroughly revised and improved in the Second Order Draft.
984	Stiles, Daniel	3	43		44		The Logging section is useless, it doesn't define the problem, where are the deforestation hotspots, what are key species at threat, what the drivers are, who is involved, the key destination countries and uses, no quantitative data on the natural forests and off-take of wild species!, etc., etc.	Thank you for your comment. Your suggestions have been incorporated in the revised version of the section.
985	Stiles, Daniel	3	43		44		The Logging section is useless, it doesn't define the problem, where are the deforestation hotspots, what are key species at threat, what the drivers are, who is involved, the key destination countries and uses, no quantitative data on the natural forests and off-take of wild species!, etc., etc.	Thank you for your comment. Your suggestions have been incorporated in the revised version of the section.
986	Stiles, Daniel	3	45				If traders are one of the users, why isn't trade included as a use? Trade is one of the primary uses of wild species products and is an important contributor to subsistence economies.	Thank you for your comment. This section has been considerably revised. Trade is mentioned across Chp 3 but is dealt with in detail in Chp 4.
987	Stiles, Daniel	3	51		52		General comment on Energy - there is no discussion of whether the off-take quantities cited are sustainable or not.	Thank you for your comment. We have considerably revised this section.
988	Skern-Mauritzen, Mette	3	52		59	1527	Section 3.3.3.4 Food and feed lacks statistics and text on fish as food	Thank you for this comment. This was improved in the Second Order Draft.
989	Stiles, Daniel	3	52		59		The food review was extremely good, but the section needs something on how wild foods are used for livestock/other domesticated animal feeds.	Thank you for this comment. This was taken into account in the revised section in the Second Order Draft.
990	Kathryn Phillips (on behalf of UNEP - WCMC)	3	52				Food/feed section reads nicely - prior sections on extractive practices and uses prior to energy could attempt to be written in a similar style to increase quality and consistency.	Thank you for this comment. This was improved in the Second Order Draft.
991	Stiles, Daniel	3	59		66		This section needs a discussion of how rhinos (horn), big cats (bones and organs) and pangolins (scales) are experiencing heavy poaching pressure to obtain body parts for use in traditional medicines in eastern Asia. Off-take rates are not sustainable.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.

992	Kathryn Phillips (on behalf of UNEP - WCMC)	3	62		62		Table 3.8 - TBC, is this needed in detail?	Thanks for this suggested change but it is no longer relevant as the table has been removed.
993	Stiles, Daniel	3	67				Material & shelter needs much more.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
994	Germany	3	69				A short para which wraps up 3.3 could increase readability of the chapter.	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.
995	Stiles, Daniel	3	89		90		Box 3.8 does not belong under Wild Meat. IWT deserves a whole section to itself, as meat is a very small part of it. Virtually every species traded is affected to varying degrees by trafficking.	Thanks for this suggested change but it is no longer relevant as the box has been removed.
996	Stiles, Daniel	3	92		94		Sections #3-5 would benefit from inputs found here: African Wildlife Foundation (2016). African Conservancies Volume: Towards Best Practices. Volume 1 in the Series African Conservancies , African Wildlife Foundation, Nairobi.	Thank you for your comment. We cannot add a whole lot of additional text to the chapter due to word length restrictions. However, we have already incorporated a few of these references.
997	Stiles, Daniel	3	92		94		Sections #3-5 would benefit from inputs found here: African Wildlife Foundation (2016). African Conservancies Volume: Towards Best Practices. Volume 1 in the Series African Conservancies , African Wildlife Foundation, Nairobi.	Thank you for your comment. We cannot add a whole lot of additional text to the chapter due to word length restrictions. However, we have already incorporated a few of these references.
998	Morgan, David (on behalf of CITES)	3	3.4.1. and 3.4.2.				In these subchapters, no mention in made of the use of CITES in discussing mehods and data to detect trends of use of wild species, even though there is a wealth of information through the CITES trade database, where inforamtion of international trade in wild species for over fourty years is available. The discussion is very much biased by the	Thank you for this comment. This section was heavily revised and improved in the Second Order Draft.