

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Binaya Raj Shivakoti	General	0	0	0	0	APR includes a lot of general statements, definitions, and references with global scope (not necessarily APR focused). Some of the statements are duplication from already existing UN publication and are not direct fit to IPBES scope	Thank you. UN Publications have been appropriately cited
Government of Japan	General	0	0	0	0	Data gaps exist throughout the draft assessment report. For improvement of the current and future reports, data gaps, especially those on contents that have very limited scientific reports (e.g. EcoDRR, incentives and mainstreaming but not limited to these), should clearly state the existence of the data gaps in the report and possibly on the SPM as well.	Thank you, we have aimed to address this to the extent possible in the final iteration.
IPBES Knowledge and Data Task Force (KD TF)/ Task Group on Indicators (TGI)	General	0	0	0	0	This review provides feedback from the IPBES Knowledge and Data Task Force (KD TF) / Task Group on Indicators (TGI) on the use of IPBES core indicators in your assessment. We see potential for inclusion of additional core indicators and for the more consistent use of the standardized visuals provided. For information on core indicators potentially relevant to a given chapter, please see http://www.ipbes.net/indicators (or see the tab named, "core indicators" in this spreadsheet) and check the indicator trend graphs shared by your TSU. For the trends of IPBES core indicator, standardized visualizations should be used as much as possible to ensure the consistency between and within the assessments. The KD TF/TGI aim to follow up with specific recommendations in the near future. In the meantime, do not hesitate to reach out to them through your TSU or the KD TF TSU (ipbes.kdtsu@gmail.com).	Thank you. Some of the core indicators have been included in the chapter.
IPBES NFP - Australia	General	0	0	0	0	In addition to our specific comments on the SPM and individual chapters, we also have some more general feedback below. We hope this feedback will be considered in the final drafting process to produce a comprehensive final paper, thus ensuring relevance and usefulness for a range of decision makers. Australia appreciates this is a second order draft and notes along with major final editing to ensure consistency of acronyms and references for example. 1. There is a lack of clear guidelines and recommendations for policymakers, particularly in the Summary for Policy Makers which is where we would expect to see them. What is really needed is a quick and easy guide to help a range of decision makers develop and implement policies which reflect the latest scientific data which this report should include. o The SPM is a summary of the Executive Summaries of each chapter. Rather than a summary of key findings the SPM needs to cover in brief what is the state of the environment in the APR, what could it look like in the future and what are the actions that could be taken for the region. Presenting the information in its current format is not helpful to those who cannot read the document in full due to insufficient technical expertise or time constraints.	In this chapter we have aimed to avoid delving too deeply into policy implications as this is being addressed by Chapter 6
IPBES NFP - Australia	General	0	0	0	0	2. The case studies in the report are not detailed enough in their current state to be broadly applicable, with little information on their outcomes, methods, and successes. o Case studies are frequently repeated across the chapters. More examples including possible applications in different landscapes/areas/political environments would be useful as well as the case studies effectiveness, implementation and any lessons learned.	Thank you, we have addressed this in the last iteration.

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IPBES NFP - Australia	General	0	0	0	0	<p>3. Lack of consistency throughout the report's chapters, including definitions used for essential concepts.</p> <p>o For example, terminology with 'bio' in front should be referenced accordingly. Definitions exist for these terms and concepts in other international documents such as biocultural (CBD) and biosphere (UNESCO) where these definitions exist they should be referenced as such and if they are new concepts they must be referenced.</p>	Thank you, they have been referenced and included in the glossary.
IPBES NFP - Australia	General	0	0	0	0	<p>4. The use throughout the report of references which are significantly dated or not consistent throughout the chapters. This makes the assessment appear to have a lack of a clear methodologies which seek to establish the quality and clarity of the evidence base used to make claims throughout the report.</p> <p>o Cross referencing across chapters needs to be fully considered. The statistics or information is conveyed differently across the chapters despite it discussing the same topic or issue. For example, the references to MEAs should be as per their official name and referenced consistently throughout. References to other things such as the Aichi Biodiversity Targets and the Fifth Global Biodiversity Outlook are referenced inconsistently.</p>	Thank you, we have cross-checked to the extent possible.
Pham Ngoc Bao	General	0	0	0	0	-Many repetitions and inconsistencies (words) are found in the report. Significant re-structuring (within and across the chapters) and editing are necessary.	Thank you, this has been addressed in the last iteration.
Ramsar Convention Secretariat	General	0	0	0	0	We recommend that as in the regional assessments for Africa and the Americas, the area of Ramsar Sites, wetlands protected under the Ramsar Convention as internationally important by sub-region, be included in this assessment as an indicator. See: https://rsis.ramsar.org/	We referred to the Ramsar sites in Asia and Oceania in 3.2.6.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Core Indicator 'Protected area coverage of Key Biodiversity Areas' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net . This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Ed Lewis (email: Edward.lewis@unep-wcmc.org)	We added Figure 3.5: Growth in the proportion of KBAs completely covered by protected areas in the Asia Pacific region, Figure 3.6: Growth in proportion of IBAs completely covered by PAs in the Asia Pacific sub-regions, and corresponding descriptions in 3.2.6.1.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Core Indicator 'Percentage of Undernourished People' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net . This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Carlo Cafiero (email: Carlo.Cafiero@fao.org)	This does not relate to Chapter 3
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator 'The Wildlife Picture Index (disaggregated by protected area)' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net . This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Jorge Ahumada (email: jahumada@conservation.org).	This index works only in some parts of the region

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The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator 'Wetland Extent Trend Index' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net . This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Sarah Darrah (email: Sarah.Darrah@unep-wcmc.org)	Because we described status and trends of inland freshwater wetlands and coastal wetlands in different sections, it is difficult to cite 'Wetland Extent Trend Index' that include both inland and coastal wetlands.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator 'Trends in invasive alien species vertebrate eradications' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net . This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Shyama Pagad (email: s.pagad@auckland.ac.nz)	Thank you, we have addressed this in the last iteration.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator RAMSAR areas is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net . This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Maria Rivera (email: RIVERA@ramsar.org)	Thank you, we have included this in the section on protected area coverage.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator 'Number of countries with national instruments on biodiversity relevant tradable permit schemes' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net . These indicators are country-specific, so they can be disaggregated by countries in your region. However, given the incomplete country coverage, any regional aggregates cannot be taken to represent the entire region. Currently we have data on about 58 countries. [Just to note, we also have information on countries with biodiversity-relevant taxes in place]. More information on this is available from the Indicator Focal point Katia Karousakis (email: Katia.KAROUSAKIS@oecd.org)	We did not include it because Chapter 3 is focusing on states and trends of biodiversity and ecosystems, not on permit schemes.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator 'Trends in potentially harmful elements of government support to agriculture (produced support estimates)' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net . This indicator is available for the OECD as a whole and has not been disaggregated as such. The original data on (total) government support to agriculture is available on the OECD website by country. More information on this is available from the Indicator Focal point Katia Karousakis (email: Katia.KAROUSAKIS@oecd.org)	Thank you, we could not use this for the region
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator 'Better Life Index' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net . The data is available for only 38 countries and therefore it would be difficult to be used regionally the way IPBES has classified these. More information on this is available from the Indicator Focal point Katia Karousakis (email: Katia.KAROUSAKIS@oecd.org)	This pertains to Chapter 2, but would be difficult to use without matching regional coverage.

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The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator 'Protected area coverage of terrestrial, marine and freshwater ecoregions' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Ed Lewis (email: Edward.Lewis@unep-wcmc.org)	Thank you, this has been incorporated in the last iteration.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator 'Growth in species occurrence records accessible through GBIF' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Tim Hirsch (email: 'thirsch@gbif.org')	Thank you, we did not have an appropriate spot for this in our chapter.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator 'Trends in the numbers of invasive alien species introduction events' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Shyama Pagad (email: s.pagad@auckland.ac.nz)	Thank you, chapter 4 has addressed this.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator 'Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Robert Hoft (email: robert.hoft@cbd.int)	We could not obtain the data in a form that was usable for the assessment.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator 'Information provided through the financial reporting framework, adopted by decision XII/3' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Robert Hoft (email: robert.hoft@cbd.int)	We could not obtain the data in a form that was usable for the assessment.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the IPBES Highlighted Indicator 'Number of world natural heritage sites per country per year' is used in this assessment. Indicator information is available from the IPBES Indicator portal and the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Douglas Nakashima (email: D.Nakashima@unesco.org)	We could not find an appropriate place to incorporate this.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the Indicator 'Trends in Loss of Reactive Nitrogen to the Environment' is used in this assessment. Indicator information is available from the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Albert Bleeker (email: Albert.Bleeker@pbl.nl).	We could not find an appropriate place to incorporate this.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the Indicator 'Ocean Health Index' is used in this assessment. Indicator information is available from the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Benjamin Halpern (email: halpern@nceas.ucsb.edu)	We could not find an appropriate place to incorporate this.

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The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the Indicator 'Cumulative Human Impacts on Marine Ecosystems' is used in this assessment. Indicator information is available from the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Benjamin Halpern (email: halpern@nceas.ucsb.edu)	We could not find an appropriate place to incorporate this.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the Indicator 'Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species' is used in this assessment. Indicator information is available from the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Shyama Pagad (email: s.pagad@auckland.ac.nz)	Thank you, chapter 4 has addressed this.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the Indicator 'Biodiversity Barometer' is used in this assessment. Indicator information is available from the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Rik Kutsch Lojenga (email: rik@ethicalbiotrade.org)	Thank you, we did not find an appropriate spot for this in our chapter.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the Indicator 'Red List Index (impacts of utilisation)' is used in this assessment. Indicator information is available from the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Tom De-Meulenaer (email: Tom.DE-MEULENAER@cites.org)	Thanks. It has been addressed.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the Indicator 'Water Quality Index for Biodiversity' is used in this assessment. Indicator information is available from the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Hartwig Kremer (email: hartwig.kremer@unep.org)	Addressed to some extent.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	We would recommend that the Indicator 'Number of Parties to the CBD that have deposited the instrument of ratification, acceptance, approval or accession of the Nagoya Protocol' is used in this assessment. Indicator information is available from the BIP website www.bipindicators.net. This indicator can be disaggregated/made available for this region, more information on this is available from the Indicator Focal point Beatriz Gomez (email: 'beatriz.gomez@cbd.int')	This has been addressed in chapter 6.
André Mader	Ch.3	0	0	0	0	Throughout the document "ecosystem services" is used instead of NCP. I assume this was a conscious choice but thought that it should be mentioned anyway.	Yes, thank you for the remark.
André Mader	Ch.3	0	0	0	0	Overall very well written but there is an almost complete absence of discussion on the subregions, and the similarities and differences between them. Is it compatible with the content of other chapters?	Subregions with countries and territories have been tabulated in the earlier "Background Document" of the assessment. It is compatible with other chapters
André Mader	Ch.3	0	0	0	0	There is quite a large discrepancy in the amount of information on terrestrial systems vs. coastal and marine ones	Addressed to a large extent
André Mader	Ch.3	0	0	0	0	In some places it is not clear whether the discussion regards the whole region or some part of it. This is something that can easily be clarified with an extra few words of specification here and there.	Discussion on subregions representing the region, with examples from countries with good data availability

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André Mader	Ch.3	0	0	0	0	It would really help if there were a more consistent structure of each section discussing the status and trends of biome/systems. At the moment this is variable between sections: some spend more time describing the system; others more on the status and trends of the systems; and others more on the status and trends of species. A better balance could help a lot with readability. Subheadings (not necessarily numbered) might also help. The section on protected areas is great in the terrestrial systems but missing elsewhere.	Thanks. Addressed to a large extent in the last iteration.
André Mader	Ch.3	0	0	0	0	Be aware of statements that are implied to apply across the region, when they actually apply to only a small part of it (for example pg 23, lines 977-979)	Statement supported by a reference
André Mader	Ch.3	0	0	0	0	I suggest systematically adding more figures to the text, to highlight important trends for example	Addressed to best possible extent
André Mader	Ch.3	0	0	0	0	There is a nice box for peatlands on pg 32, and a nice map for deserts on pg 15, but why only for these two sections? It could really enhance the document if that kind of thing were included more consistently across sections.	We included more boxes and figures including maps, although we could not be highly consistent across sections due to biased data availability and limited number of pages for the chapter
André Mader	Ch.3	0	0	0	0	The distinction between coastal and marine is unclear and somewhat confusing...	We avoided confusion as follows. In the section of Coastal, we changed "marine ecosystem" to "coastal ecosystem". In another part, we changed "marine ecosystem" to "coastal and marine ecosystems".
André Mader	Ch.3	0	0	0	0	Note that the correct term is "Aichi Biodiversity Targets", not "Aichi targets"	Noted. It has been corrected
Elise Belle	Ch.3	0	0	0	0	Throughout the document, check the use of the comma (many are missing, making the text difficult to read in places)	Thank you. Noted.
Elise Belle	Ch.3	0	0	0	0	Throughout the document, initials of authors should be deleted from references in the text (or should be consistent throughout), and 'et.al.' consistently used when there are more than two (or three) authors.	Thank you, the formatting has been done. (Initials are still indicated where different references have the same name)
Elise Belle	Ch.3	0	0	0	0	Throughout the document, for consistency, 'the APR' should be used instead of only 'APR', and 'APR' instead of 'AP region'	Will be done together with all chapters for consistency
Elise Belle	Ch.3	0	0	0	0	Throughout the document, a few more figures and graphs would be good.	Thank you, this has been done in the last iteration.
Faith	Ch.3	0	0	0	0	this chapter refers a lot to species and red list - but not to the corresponding NCP...e.g. NCP 18	This could not be addressed completely as making the linkage is mainly the scope of chapter 2.

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IPBES Secretariat/TSU	Ch.3	0	0	0	0	The guidance from the IPBES MEP and Bureau on the Summary for Policy Makers (SPM) has pointed out that the key findings should highlight subregional similarities/differences wherever possible, as all four regions are quite heterogeneous ecologically, socially and politically. Since any statement in the SPM must be backed by evidence contained in specific sections of the main chapter text, this means that each chapter needs to have covered all of the subregions (to the extent possible) in order to respond to the above guidance. Please therefore check whether it would be possible to improve the balance of the coverage of subregions in your chapter, in particular for the sections of the text that are biased towards only some parts of the Asia-Pacific.	Done to a large extent
Kwan-Sung Song (NFP Korea)	Ch.3	0	0	0	0	It is suggested to define the subject clearly as this chapter evaluates the current status of the ecosystem in each country rather than its benefits.	It is stated in Section 3.1.1
Margarita N. Lavides	Ch.3	0	0	0	0	NOTE for all the biomes in relation to species at risk of extinction/threatened. The ecological function/importance of some of these species, if known, should be mentioned. If there are known impacts in its specific ecological function e.g. negatively severed or lost due to extreme depletion of that species, this should be reported as well here so that this Chapter reports both structure and function in the spirit of Ecology of each biome. If possible, the specific ecological severed or lost or minimized should be mentioned.	We provided additional explanations on the ecological function/importance of threatened species in case published evidence is available.
Pham Ngoc Bao	Ch.3	0	0	0	0	Too much references for this chapter???	Involves many countries and territories (>60) for the region
Thomas Brooks	Ch.3	0	0	0	0	The IPBES definition of "biodiversity" includes "ecosystems" (see e.g. http://www.ipbes.net/sites/default/files/downloads/IPBES_2_INF_2_Add.1.pdf ; also Pollination assessment p481, and Africa assessment SOD Chapter 1, Page 5, Lines 142-145). So, avoid use of phrases like "biodiversity and ecosystems", which is a tautology and unnecessary repetition. Instead, either a) if the intent is to refer to "ecosystems" a specific level of ecological organisation, then delete "biodiversity", b) if the intent is to refer to "biodiversity" generally, delete "ecosystems", or c) replace "biodiversity" with something like "genetic diversity, species, and ecosystems". Examples that need correcting include Page 2 (Lines 32 & 70), Page 5 (Lines 169, 187, 190, 192, 204), Page 6 (Line 237), Page 44 (Line 1971), Page 45 (Lines 1982, 1984 [twice], 1987-1988), Page 46 (Lines 2056, 2068), Page 47 (Line 2970).	Depending on contexts, we deleted "and ecosystems" or replaced "ecosystems" with "ecosystem services".

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Faith	Ch.3	1	1	82	3811	<p>Comments specific to particular lines follow further below, but the initial following comments I think are relevant to both chapters 2 and 3. The scoping for chapter 2 indicates that it will assess NCPs including the status/trends of the NCPs. The scoping for chapter 3 indicates that it will build on the chapter 2 assessment of NCPs and look at the status/trends of biodiversity and ecosystems with an eye to how that influences NCPs. These tasks normally are a close fit, but are in fact overlapping in the case of NCP18. NCP18 is mostly about the contribution of biodiversity itself in providing "maintenance of options" or "option value". For example, NCP18 refers to "Benefits (including those of future generations) associated with the continued existence of a wide variety..." Living variety is of course another way of saying "biodiversity". This NCP18 benefits statement echoes the oldest discussions of the value of biodiversity itself as a benefit (following e.g. Haskins 1974; reviewed in Faith 2017*). "Faith 2017 summarised: "this link between biodiversity and human well-being actually traces back to the "pre-history" of "biodiversity" (roughly, the history of the term before it was invented). Haskins (1974: 646) summarised an important discussion meeting where participants called for "an Ethic of Biotic Diversity in which such diversity is viewed as a value in itself and is tied in with the survival and fitness of the human race". Haskins (1974: 646) warned, "Plants and animals that may now be regarded as dispensable may one day emerge as valuable resources" and that extinction "threatens to narrow down future choices for mankind". Roush (1977: 9) similarly argued that "diversity increases the possibility of future benefits" (for review, see Farnham 1997). IUCN's (1980: section 3) arguments for the conservation of diversity (referring to "the range of genetic material found in the world's organisms") echoed Haskins: "we may learn that many species that seem dispensable are capable of providing important products, such as pharmaceuticals, or are vital parts of life-support systems on which we depend." Later philosophical discussions supported these perspectives. Norton (1986) argued that diversity itself has utilitarian value. Randall (1986: 103) similarly considered unit species and proposed that all species not already distinguished in having recognised human-use values "would be treated as having a positive but unknown expected value." These ideas flowed on to discussions around the new term "biodiversity". McNeely (1988) and Reid and Miller (1989) referred to "option values" of biodiversity. E. O. Wilson (1988) highlighted values for biodiversity reflecting our lack of knowledge about the components of life's variation and their importance to humankind. The MEA (2005a: 32) concluded that "the value individuals place on keeping biodiversity for future generations—the option value—can be significant." Gascon et al. (2015) reviewed the many, sometimes surprising, benefits of species to argue for the importance of option value (and pointed to PD as a candidate measure of option value). The Encyclical Letter "On Care for Our Common Home" (Francis 2015) addressed the loss of biodiversity, arguing for the importance of not only intrinsic values of species but also the option values of biodiversity: "The loss of forests and woodlands entails the loss of species which may constitute extremely important resources in the future, not only for food but also for curing disease and other uses. Different species contain genes which could be key resources in years ahead for meeting human needs and regulating environmental problems...Maclaurin and Sterelny concluded: "The crucial point about option value is that it makes diversity valuable. As we do not know in advance which species will prove to be important, we should try to conserve as rich and representative a sample as possible" (2008:154)." Maintenance of options, or option value, has been described well in the IPBES conceptual framework, in the preliminary guidelines, and in the IPBES catalogue of assessments. NCP 18 nicely echoes the Millennium Ecosystem Assessment (MEA; Biodiversity synthesis): "Biodiversity loss is important in its own right because ... it represents unexplored options for the future (option values)." and "The loss of biodiversity in some instances is irreversible, and the value individuals place on keeping biodiversity for future generations—the option value—can be significant." So, from the NCP18 perspective, any status report on biodiversity is also a status report on NCP18—because variety is the benefit. My comments below therefore link to both chapters 2 and 3. The reference list for all comments is provided at the bottom. Chapter 2 is to address how biodiversity (and ecosystem functions and services) contribute to good quality of life and address the trends in nature's contribution and the link between nature's contributions to people and their quality of life. The scoping notes links to CBD Strategy/Goal D—enhancing benefits to all, and with reference to intergenerational equity issues. Thus, it is important to discuss NCP 18. The current drafts of chapters 2 and 3 report on the status and trends of biodiversity broadly—e.g. reporting red list status for many different species—but these assessments regarding global biodiversity are not yet well-linked to NCPs. This would be accomplished by linking the red list status to the status of NCP18 (see below). In chapter 2, the assessment relating to good quality of life arising from NCP18's "benefits (including those of future generations) associated with the continued existence of a wide variety" could begin by noting recent examples. The chapter could point to some of the actual recent discoveries and benefits that have emerged from "maintenance of options". For example, Chaisagnon et al (2017) reported this year that the venom of the Darling Downs funnel web spider (<i>Hadranyche infensa</i>) is the unlikely source for a drug to ward off brain damage caused by strokes. Also this past year, Peel et al (2016) reported that the milk from Tasmanian devils surprisingly provides a weapon against antibiotic-resistant bacteria. There are many more recent examples in all the regions of these unanticipated benefits that fit under NCP18. These stories and others have been reported in the popular press, reinforcing people's relational value linking biodiversity to welfare of future generations (see Faith 2017). Option value of biodiversity has been promoted well by conservation NGOs (for perspective see Gascon et al. (2015) who provide many examples of surprising benefits from biodiversity). Gascon et al. also noted the measurement problem and point to "phylogenetic diversity" as a likely good measure of option value (see below). Over the past decade or more, a strong case (reviewed in Faith 2017) has been made for an indicator of "maintenance of options" as the estimate, over multiple taxonomic groups, of the maintenance of phylogenetic diversity ("PD" sensu Faith 1992). Larsen et al. (2012) argued that a big challenge in biodiversity conservation is to find a "robust proxy" for global option values that effectively captures potential future values to society. They concluded that "maximizing the retention of phylogenetic diversity (PD) should also maximize option value." Cadotte and Davies (2010) argued that "maximizing the preservation of PD will also tend to maximize the preservation of feature diversity." Jetz et al (2014) argued "While any particular trait may be phylogenetically labile, PD captures the integrated genotype and phenotype of a lineage and so represents both measured (e.g., present) and unmeasured (e.g., future) function and capacity." (see also Laity et al 2015; Moullot et al 2016; Pollock et al 2017). Support for PD as a measure of option value is found also in philosophy of science work (e.g. Maclaurin and Sterelny 2008) and among economists (e.g. Nehring, K., and C. Puppe 2004). Arrieta et al 2010 has explored how recent discoveries link to phylogenetic diversity. Fig 2 http://www.pnas.org/content/107/43/18318.full The IPBES catalogue of assessments illustrates the link of PD to option value, based on the many foods and medicines discovered in plants. http://catalog.ipbes.net/assessments/144 "Phylogeny and the sustainable use of biodiversity: an assessment based on the Survey of Economic Plants for Arid and Semi-Arid Lands." Forest et al. (2007) explored PD and option value using an estimated phylogenetic tree for genera found in the Cape hotspot of South Africa. Forest et al. (2007) demonstrated that, if we did not know about those medicinal, food, and other uses, then preserving sets of species with high PD would be a good way to preserve these unknown benefits. PD captures option values well because it reflects "feature diversity". This link is well corroborated through the many tests (moderate to high confidence based on many published PTP tests that corroborate the PD model; e.g. Slownski and Crother (1998); Wilkinson et al 2002). A well-established framework for quantifying such global option values of biodiversity is "phylogenetic diversity". Status and trends in biodiversity and NCP18 could look at status and trends in PD in two ways. 1) How well is PD represented well in the regional and global protected areas system? 2) How much PD is in peril given the known imperilled species from red list assessments? 1) Pollock et al (2017; Extended Data Figure 3) show the global and regional priorities for expanding protected areas to benefit the bird versus mammal phylogenetic diversity. See Extended Data Figure 3f http://www.nature.com/nature/journal/v546/n7656/fig_tab/nature22368_ft.html Moullot et al (2016) found hotspots areas having lots of poorly protected PD, for fish and for corals: Fig 3 b and c http://www.nature.com/articles/ncomms10359 2) The studies above address the "maintenance of options" challenge of securely representing PD in protected areas. A complement to those efforts is to assess, for many taxonomic groups, how much PD currently is imperilled (based on red list assessments of imperilled species). The assessment of imperilled PD is well-established in the EDGE program. The value to people of NCP18 is illustrated well by this successful global program, EDGE (see references), based on preservation of PD. The EDGE of Existence programme highlights and conserves phylogenetically distinctive species that are "imperilled" or on the verge of extinction. This program and the many related regional and global studies (listed in references) provides the existing data useful for this assessment of NCP18. Typically these studies, over many different taxonomic groups, integrate red list assessment with estimates of Evolutionary Distinctiveness (ED) of species. Evolutionary Distinctiveness (ED) measures the proportion of total phylogenetic diversity (PD; measured as the sum of branch lengths in millions of years) by giving the species credit for a branch inverse-weighted by the number of species sharing that branch (Isaac et al., 2007). Globally, for multiple taxonomic groups, we now have tabulated published lists of ED associated with good phylogenies, and have red list assessments of the species. We could add-up total ED values or count number of EDGE species in the region. But the most useful summary of this available information is simply sum of the tabulated ED values of the threatened species, as this approximates threatened or "imperilled" PD—thus, providing information linking biodiversity status and change to change in NCP18. *Technical comment – tabulations for all groups focus on the called ED values (evolutionary distinctiveness); the total PD is divided up among the species, where the ED score for a species is the sum of its ancestral branch lengths.</p>	Thank you, this has been considered in balance with the rest of the chapter and also avoiding overlap with chapter 2.
Faith	Ch.3	1	1	82	3811	Reference list (for comment on Ch.3 line 1-3811)	
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Arrieta, Jesús M., Sophie Arnaud-Haond, and Carlos M. Duartea (2010) What lies underneath: Conserving the oceans' genetic resources. PNAS www.pnas.org/cgi/doi/10.1073/pnas.0911897107 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Barker, GM 2002 Phylogenetic diversity: a quantitative framework for measurement of priority and achievement in biodiversity conservation BIOLOGICAL JOURNAL OF THE LINNEAN SOCIETY Volume: 76 Issue: 2 Pages: 165-194 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Brooks TM, Akçakaya HR, Burgess ND, Butchart SHM, Hilton-Taylor C, Hoffmann M, Juffe-Bignoli D, Kingston N, MacSharry B, Parr M, Perianin L, Regan EC, Rodrigues ASL, Rondinini C, Shennan-Farpon Y, Young BE (2016) Analysing biodiversity and conservation knowledge products to support regional environmental assessments. Scientific Data 3: 160007. http://dx.doi.org/10.1038/sdata.2016.7 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Brooks TM, Akçakaya HR, Burgess ND, Butchart SHM, Hilton-Taylor C, Hoffmann M, Juffe-Bignoli D, Kingston N, MacSharry B, Parr M, Perianin L, Regan EC, Rodrigues ASL, Rondinini C, Shennan-Farpon Y, Young BE (2016) Data from: Analysing biodiversity and conservation knowledge products to support regional environmental assessments. Dryad Digital Repository. http://dx.doi.org/10.5061/dryad.6gb90.2 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Bruford, Michael W., Neil Davies, Mohammad Ehsan Dulloo, Daniel P. Faith, Michele Walters (2017) Monitoring Changes in Genetic Diversity. In: The GEO Handbook on Biodiversity Observation Networks. pp 107-128. available at: http://link.springer.com/chapter/10.1007/978-3-319-27288-7_5/fulltext.html 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Cadotte MW and JT Davies (2010) Rarest of the rare: advances in combining evolutionary distinctiveness and scarcity to inform conservation at biogeographical scales. Diversity and Distributions, 16, 376–385 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Chassagnon, Irène R., Claudia A. McCarthyb,c, Yanni K.-Y. China, Sandy S. Pinedaa, Angelo Keramidasd, Mehdi Moblie, Vi Phamb,c, T. Michael De Silvab,c, Joseph W. Lynchd, Robert E. Widdopb,c, Lachlan D. Rasha,f,1, and Glenn F. Kinga, (2017) Potent neuroprotection after stroke afforded by a double-knot spider-venom peptide that inhibits acid-sensing ion channel 1a 1114 no. 14 3750–3755, doi: 10.1073/pnas.1614728114 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Daru, B.H., Bank, M. & Davies, T.J. (2015) Spatial incongruence among hotspots and 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> complementary areas of tree diversity in southern Africa. Diversity and Distributions, 21(7), 447 769-780. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Daru, B.H., Yessoufou, K., Mankga, L.T. & Davies, T.J. (2013) A global trend towards the loss of evolutionarily unique species in mangrove ecosystems. PLoS ONE, 8, e66686. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> EDGE of Existence https://www.edgeofexistence.org/ ZSL, London. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Faith, D. P. (1992). Conservation evaluation and phylogenetic diversity. Biological Conservation, 61, 1–10. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Faith DP, Ferrier, S., Williams, KJ (2008) Getting biodiversity intactness indices right: ensuring that "biodiversity" reflects "diversity" Global Change Biology 14, 207-217. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Faith, D. P. (2011). Higher-Level Targets for Ecosystem Services and Biodiversity Should Focus on Regional Capacity for Effective Trade-Offs. <i>Diversity</i> 2011, 3, 1-7; doi:10.3390/d3010001 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Faith Daniel P. (2014) Ecosystem services can promote conservation over conversion and protect local biodiversity, but these local win-wins can be a regional disaster. <i>Australian Zoologist Online</i> pp1-10. DOI 10.7882/AZ.2014.031 available at: http://catalog.ipbes.net/system/assessment/141/references/files/710/original/Faith_Australian_Zoologist_2014.pdf?1422606347 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Faith DP (2017) A general model for biodiversity and its value. in <i>The Routledge Handbook of Philosophy of Biodiversity</i> (Eds. J Garson, A Plutynski, S Sarkar) 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	https://www.routledge.com/products/9781138827738	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Faith, D.P., Magallón, S., Hendry, A.P., Conti, E., Yahara, T., Donoghue, M.J., 2010. Ecosystem services: an evolutionary perspective on the links between biodiversity and human well-being. <i>Current Opinion in Environmental Sustainability</i> 2, 66–74. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Forest, F., Grenyer, R., Rouget, M., Davies, T.J., Cowling, R.M., Faith, D.P., Balmford, A., Manning, J.C., Proches, S., van derBank, M., Reeves, G., Hedderson, T.A. & Savolainen, V. (2007) Preserving the evolutionary potential of floras in biodiversity hotspots. <i>Nature</i>, 445, 757–760. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Francis (2015) Encyclical Letter Laudato Si' of the Holy Father Francis: On Care for Our Common Home [English language version]. The Vatican. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Gascon C., Thomas M. Brooks, Topiltzin Contreras-MacBeath, Nicolas Heard, William Konstant, John Lamoreux, Frederic Launay, Michael Maunder, Russell A. Mittermeier, Sanjay Molur, Razan Khalifa Al Mubarak, Michael J. Parr, Anders G.J. Rhodin, Anthony B. Rylands, Pritpal Soorae, James G. Sanderson, Jean-Christophe Vié (2015) "The Importance and Benefits of Species," Current Biology. 25: R431–R438. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> González-Orozco, Carlos E. Laura J. Pollock, Andrew H. Thornhill, Brent D. Mishler, Nunzio Knerr, Shawn W. Laffan, Joseph T. Miller, Dan F. Rosauer, Daniel P. Faith, David A. Nipperess, Heini Kujala, Simon Linke, Nathalie Butt, Carsten Külheim, Michael D. Crisp & Bernd Gruber (2016) Phylogenetic approaches reveal biodiversity threats under climate change. Nature Climate Change 6, 1110-1114. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Haskins, C. (1974) "Scientists Talk of the Need for Conservation and an Ethic of Biotic Diversity to Slow Species Extinction", Science, 184: 646-47. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Isaac, N.J.B., Turvey, S.T., Collen, B., Waterman, C., Baillie, J.E.M., 2007. Mammals on the EDGE: conservation priorities based on threat and phylogeny. PloS One 2, e296. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Jetz, W., G. H. Thomas, J. B. Joy, D. W. Redding, K. Hartmann, and A. Ø. Mooers. 2014. Global distribution and conservation of evolutionary distinctness in birds. Curr. Biol. 24:919–930. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Laity, Tania, Shawn W. Laffan, Carlos E. González-Orozco, Daniel P. Faith, Dan F. Rosauer, Margaret Byrne, Joseph T. Miller, Darren Crayn, Craig Costion, Craig C. Moritz, Karl Newport (2015) Phylodiversity to inform conservation policy: An Australian example. Science of The Total Environment, Volume 534, 15 November, Pages 131-143 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Larsen, F.W., W.R. Turner, T.M. Brooks, et al. (2012). Conserving critical sites for biodiversity provides disproportionate benefits to people. PLoS One 7: e36971. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Maclaurin J, Sterelny K (2008) What is biodiversity? University of Chicago Press. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Millennium Ecosystem Assessment, 2005. Ecosystems and Human Well-being: Biodiversity Synthesis. World Resources Institute, Washington, DC. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Millennium Ecosystem Assessment, 2005. Chapter 4: Biodiversity. World Resources Institute, Washington, DC. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Mouillot, D., Parravicini, V., Bellwood, D. R., Leprieur, F., Huang, D., Cowman, P. F., Albouy, C., Hughes, T. P., Thuiller, W., & Guilhaumon, F. (2016). Global marine protected areas do not secure the evolutionary history of tropical corals and fishes. Nature Communication,7, 10359. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Mukherjee, Supratim, Rekha Seshadri, Neha J Varghese, Emiley A Eloie-Fadrosch, Jan P Meier-Kolthoff, Markus Göker, R Cameron Coates, Michalis Hadjithomas, Georgios A Pavlopoulos, David Paez Espino, Yasuo Yoshikuni, Axel Visel, William B Whitman, George M Garrity, Jonathan A Eisen, Philip Hugenholtz, Amrita Pati, Natalia N Ivanova, Tanja Woyke, Hans-Peter Klenk & Nikos C Kyrpides (2017) 1,003 reference genomes of bacterial and archaeal isolates expand coverage of the tree of life Nature Biotechnology 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Nehring, K., and C. Puppe (2004). Modelling phylogenetic diversity. Resource and Energy Economics 26(2): 205–235. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Peel E. , Y. Cheng, J. T. Djordjevic, S. Fox, T. C. Sorrell & K. Belov (2016) Cathelicidins in the Tasmanian devil (<i>Sarcophilus harrisii</i>) Scientific Reports 6, Article number: 35019. doi:10.1038/srep35019 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Pollock, Laura J. Wilfried Thuiller¹ & Walter Jetz (2017) Large conservation gains possible for global biodiversity facets. Nature 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Roush, G. (1977) "Why save diversity?" Nature Conservancy News 21: 9-12. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Safi K, Armour-Marshall K, Baillie JEM, Isaac NJB (2013) Global Patterns of Evolutionary Distinct and Globally Endangered Amphibians and Mammals. PLOS ONE 8(5): e63582. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.

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Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Slowinski Joseph B. and Brian I. Crother (1998) Is the PTP Test Useful? Cladistics 14, 297]302 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Sonnenburg1,*, Erica D., Samuel A. Smits1,*, Mikhail Tikhonov2, Steven K. Higginbottom1, Ned S. Wingreen3, and Justin L. Sonnenburg1 Diet-induced extinction in the gut microbiota compounds over generations Nature. 2016 January 14; 529(7585): 212–215 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Thuiller, Wilfried Sébastien Lavergne, Cristina Roquet, Isabelle Boulangeat, Bruno Lafourcade & Miguel. B. Araujo (24 February 2011) Consequences of climate change on the tree of life in Europe Nature 470, 531–534 doi:10.1038/nature09705 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Tonini, J. F. R., K. H. Beard, R. B. Ferreira, W. Jetz, and R. A. Pyron. 2016. Fully-sampled phylogenies of squamates reveal evolutionary patterns in threat status. Biol. Conserv. 204:23–31. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Veron et al. (2016) Loss and conservation of evolutionary history in the Mediterranean Basin. BMC Ecol 16:43 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> WILKINSON, MARK, PEDRO R. PERES-NETO, PETER G. FOSTER, AND CLIVE B. MONCRIEFF (2002) Type 1 Error Rates of the Parsimony Permutation Tail Probability Test Syst. Biol. 51(3):524–527. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Zhang Jian, Scott E. Nielsen, Youhua Chen, Damien Georges, Yuchu Qin, Si-Shuo Wang, Jens-Christian Svenning and Wilfried Thuiller (2016) Extinction risk of North American seed plants elevated by climate and land-use change. <i>Journal of Applied Ecology</i> 2016. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Yessoufou, Kowiyou, Barnabas H. Daru^{2,3} Respinah Tafirei¹ Hosam O. Elansary⁴ Isaac Rampedi¹ (2017) Integrating biogeography, threat and evolutionary data to explore extinction crisis in the taxonomic group of cycads <i>Ecology and Evolution</i>. 2017;7:2735–2746. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Faith	Ch.3	1	1	82	3811	<ul style="list-style-type: none"> Yessoufou K. *, G.H. Stoffberg (2016) Biogeography, threats and phylogenetic structure of mangrove forest globally and in South Africa: A review. <i>South African Journal of Botany</i> 107 114–120. 	As for your suggestions to refer to genetic and phylogenetic diversity, authors contacted you and added some paragraphs about genetic and phylogenetic diversity following your suggestion.
Joanne Perry NZ Focal point	Ch.3	1	10	1	10	Chad Hewitt is a New Zealand expert	Thank you, this affiliation has been added.
Joanne Perry NZ Focal point	Ch.3	1	18	1	18	Catherine Febria is a New Zealand fellow	Thank you, this affiliation has been added.
André Mader	Ch.3	3	79	4	167	I think the messages could be more effective if the bold part were more concise, and the following part were used to <i>expand</i> on that concise finding/message.	Thank you, this has been taken into account in the last iteration.
David Bickford	Ch.3	3	79	4	167	add another key message on the status and trends in extinction risks	Thank you, this has been addressed.
Resit Akcakaya	Ch.3	3	79	4	167	A key message on extinction risk is missing. A new key message should focus on status and trends in extinction risk. See comment on Ch.3 p.9.	Described in 3.2.6.2 Species extinction risks.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Thomas Brooks	Ch.3	3	79	4	167	Recommend adding a key message on extinction risk across the Asia-Pacific region (and its subregions), and on the <code>_rate_</code> at which species in the region (and its subregions) are sliding towards extinction, which is documented by the Red List Index. This indicator has a strong scientific basis (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0000140), as well as policy alignment given that it is used to track progress towards SDGs Target 15.5 and Aichi Target 11 (https://www.bipindicators.net/indicators/red-list-index). It is an IPBES "core" indicator (http://www.ipbes.net/sites/default/files/downloads/pdf/ipbes-5-inf-5.pdf , p10) and included in Chapter 1, Table S4 (Page 74, Line 2611). Data for this indicator, disaggregated to the Asia-Pacific region and its subregions, were published in https://www.nature.com/articles/sdata20167 . The Americas regional assessment SOD Chapter 3 (Pages 43-46, Lines 1074-1122 + Figures 3.21, 3.22, and 3.23) and the Europe & Central Asia regional assessment SOD Chapter 3 (Pages 5-6, Lines 177-187; Pages 108-109, Lines 3060-3079 + Figure 3.45; & Pages 140-143; Lines 4012-4098 + Figure 3.54) could be used to provide helpful templates for development of text and figures to underpin such a key message.	Described in 3.2.6.2 Species extinction risks.
Thomas Brooks	Ch.3	3	79	4	167	Recommend adding a key message on protected area coverage of key biodiversity areas, given the crucial importance of protected areas in safeguarding the biodiversity of important sites (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0032529), as well as policy alignment given that this indicator is used to track progress towards SDG Targets 14.5.1, 15.1.2, 15.4.1 and Aichi Target 11 (https://www.bipindicators.net/indicators/protected-area-coverage-of-key-biodiversity-areas). It is an IPBES "core" indicator (http://www.ipbes.net/sites/default/files/downloads/pdf/ipbes-5-inf-5.pdf , p10) and included in Chapter 1, Table S4 (Page 73, Line 2611). Data for this indicator, disaggregated to the Asia-Pacific region and its subregions, were published in https://www.nature.com/articles/sdata20167 . The Europe & Central Asia IPBES regional assessment SOD Chapter 3 (Page 5, Lines 170-176; Pages 105-108, Lines 3015-3059 + Figures 3.42, 3.43, 3.44) could be used to provide a helpful template for development of the text and figures to underpin such a key message.	Described in 3.2.6.3 Protected Area Management Effectiveness
David Bickford	Ch.3	3	79	4	168	Great job including most threats - add synergistic effects of multiple threats acting together and make clear the effects of habitat loss far outweigh all other threats.	An example of synergistic effects are illustrated in Fig 3.2 Cumulative impacts of various drivers on aquatic ecosystems in Southeast Asia. The effects of habitat loss vary among ecosystems.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Margarita N. Lavides	Ch.3	3	81	3	81	I reiterate my comments as found in Chapter 1 regarding the use of (established but incomplete); (well-established); (established but inconclusive) etc. Please see my comments in Chapter 1 (re-pasted here): => I realized at this point that the use of the following: (Well-established); (Established but incomplete); (Established but inconclusive) are all over the document. If I correct every other sentence for that, I would not finish APR Regional Assessment for review. Therefore, I suggest to authors to limit from using these vague, confusing and contradicting phrases i.e. established but inconclusive??, especially when the sentence is a compound one. The reader is left confused with which one is established and which one is inconclusive. Also at which context it is established or inconclusive, spatially? temporally? or for which element in the sentence? Its also distracting for readers. I understand these 'phrases' are IPBES' but if its going to be used especially heavily in this document, it has be ensured that at the beginning these phrases are well-explained and defined. I came across these 'phrases' since the first sentence of Chapter 1 page 3 but only in page 36 under Communication of Uncertainty was the meaning of the 'phrases defined. There are also a number of grammar errors which external expert reviewers were guided not to comment on but which errors affect the intended message of each sentence and or paragraph. For example, missing 'as' ; 'to' etc. in between main words. There are also misspelled words.	We followed the guidance given by IPBES. This will be addressed collectively for all the chapters
Elise Belle	Ch.3	3	81	51	2251	The document could be significantly improved by being proofread by a native English speaker, especially some sections which are difficult to read (e.g. pages 36 to 43, see comments below). Notably the use of articles should be checked throughout as many are missing.	Thank you this has been done by authors to the extent possible.
Stuart Butchart	Ch.3	3	82	3	82	Add text sayingt that species in the region are moving ever faster towards extinction, as shown by the Red List Index. See Butchart et al 2007 http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0000140 , Brooks et al 2016 https://www.nature.com/articles/sdata20167 .	Described in 3.2.6.2 Species extinction risks.
André Mader	Ch.3	3	83	3	84	Lowland evergreen forest and estuarine habitats are not explicitly discussed elsewhere in the text.	Addressed to some extent
Henry Scheyvens	Ch.3	3	86	3	89	Writing that rapid loss of forest cover is mostly associated with forest fires is quite misleading.	Modified as follows: Forest fires associated with rapid loss of forest cover is leading to enormous environmental and socio-economic loss (well established)
Joanne Perry NZ Focal point	Ch.3	3	95	3	95	when you refer to a massive regional trade in timber, are you referring to illegal or otherwise, or both?	We refer to both, but we avoided stating "illegal logging" considering complicated political backgrounds of logging activities.
Henry Scheyvens	Ch.3	3	95	3	96	And agricultural products such as palm oil that are widely associated with deforestation.	Modified suitably
Thomas Brooks	Ch.3	3	112	3	112	Give source? Presumably http://www.iucnredlist.org/ and so add "(according to the IUCN Red List)" or similar text.	This has been revised.
IPBES NFP - Australia	Ch.3	3	121	3	122	Australia's fisheries management practices should ensure that Australia does still have exploitable fish stocks in 2048. There may be fewer exploitable stocks in other regions.	This has been revised.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Joanne Perry NZ Focal point	Ch.3	3	123	3	124	It is not clear why you specifically refer to dugongs in this summary. It is appropriate in the section that provide deeper analysis but not here.	Modified suitably
Joanne Perry NZ Focal point	Ch.3	3	141	3	142	re the statement "much larger than the costs to public health imposed by avian flu and other diseases". This is a very odd juxtaposition with what is being discussed and its is hard to see its relevance in this summary. Would suggest removing from this section.	Modified suitably
Stuart Butchart	Ch.3	3	152	3	152	Add message on protected area coverage including of key biodiversity areas. Coverage of KBAs is increasing, but remains inadequate. See Butchart et al 2012 http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0032529 and Butchart et al 2015 http://onlinelibrary.wiley.com/doi/10.1111/conl.12158/abstract , plus Brooks et al 2016 with the relevant regional data https://www.nature.com/articles/sdata20167 .	We added the following summary. Protected Area coverage in the AP region region has increased substantially since last three decades. Despite this progress, however, at least 75% of Key Biodiversity Areas remain unprotected, suggesting that the region is not on track to conserve areas of particular importance for biodiversity, as called for under Aichi Target 11 (Well established).
Joanne Perry NZ Focal point	Ch.3	3	173	3	173	the use of the term astounding is very odd. Unique and highly valued might be a better description.	We replaced "astounding" with "unique" and also used "high-valued" as follows. The Asia Pacific (AP) region is among the most diverse regions of the globe with unique biodiversity, multitudes of ecosystems and highly-valued habitats spread across terrestrial, marine and freshwater biomes
Shuli Niu	Ch.3	4	133	4	133	add "," before which	This has been revised.
Shukla Acharjee	Ch.3	4	136	4	136	Viet Nam it should be Vietnam	This has been revised.
Shuli Niu	Ch.3	4	144	4	150	What is the connect between bioculture diversity and biodiversity? How does the former influence the latter?	Explanation of this connection can be seen in Chapter 1.
André Mader	Ch.3	5	173	5	200	There is a lot about ecosystem services here, which seems to belong in chapter 2	Modified suitably
Shuli Niu	Ch.3	5	180	5	180	"valuation"? do you mean "evaluation"	Yes, we meant evaluation.
Shukla Acharjee	Ch.3	5	188	5	188	wellbeing - it should be well-being	This has been revised.
Prakash Nelliyat	Ch.3	5	214	5	214	Is this: "Biodiversity International" or Bioversity International?	Bioversity International
Thomas Brooks	Ch.3	6	223	6	225	Good use of IUCN Red List information - retain.	Thank you.
Shuli Niu	Ch.3	6	224	6	224	replace "represented" with "presented"	This has been revised.
Elise Belle	Ch.3	6	229	6	229	"It should be noticed that this approach [...] Red Lists"	This has been revised.
Thomas Brooks	Ch.3	6	229	6	229	Change "this approach disregards" to "no data are available for". This is not an issue of the authors' specific approach, but rather that data simply do not exist for most invertebrates, especially. Also change "red lists" to "data availability" - this is a general issue, not specific to red lists.	This has been revised.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Resit Akcakaya	Ch.3	6	232	6	232	The text that claims that the IUCN Red List categories and criteria are not applicable for invertebrates and fungi is wrong. The Red List Guidelines contains detailed guidance on how to make assessments for invertebrates and fungi.	Thanks. Modified suitably
David Bickford	Ch.3	6	232	6	233	inverts and fungi also have RedList categories and criteria, so delete this part	This has been revised.
Thomas Brooks	Ch.3	6	232	6	233	Delete. This is not correct: see https://portals.iucn.org/library/node/10315 (page 4, section II.1).	This has been revised.
André Mader	Ch.3	6	237	6	252	Outline of categories does not quite match table of contents and text. E.g. agroecosystems and urban are under terrestrial, not separate from it; while biocultural is dealt with separately.	This has been revised.
André Mader	Ch.3	6	239	6	239	Is it correct to say that terrestrial is more diverse than marine/coastal?	We replaced "most diverse in terms of biophysical features..." with "diverse particularly in terms of biophysical features..."
Thomas Brooks	Ch.3	6	244	6	252	Good use of https://www.nature.com/articles/sdata20167 - retain	Thank you.
Elise Belle	Ch.3	6	246	6	246	Date of Red List assessments?	This has been revised.
Elise Belle	Ch.3	6	250	6	252	You could replace with more recent data: "In the APR, protected areas currently cover 13.3% (4,641,956 km²) of land and inland waters and 15.7% (10,391,408 km²) of coastal and marine areas under national jurisdiction (UNEP-WCMC and IUCN, 2017)." Reference: UNEP-WCMC and IUCN (2017). Protected Planet. Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net.	Thank you. Suggested replacement incorporated in text
Resit Akcakaya	Ch.3	6	253	6	253	Information should be added here on on status and trends in extinction risk, based on the IUCN Red List and other information. A useful reference is Brooks et al. https://www.nature.com/articles/sdata20167 .	We added Figure 3.8: Overall extinction risk of species in the Asia Pacific region, Figure 3.9: Red List Indices of species survival in the Asia Pacific region, and corresponding descriptions in 3.2.6.2 Species extinction risks.
Thomas Brooks	Ch.3	6	253	6	253	This would be an appropriate place to insert a few paragraphs of text and associated figure on extinction risk across the Asia-Pacific region (and its subregions), and on the <code>_rate_</code> at which species in the region (and its subregions) overall (i.e. across all habitat types and biomes) are sliding towards extinction, which is documented by the Red List Index. This indicator has a strong scientific basis (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0000140), as well as policy alignment given that it is used to track progress towards SDGs Target 15.5 and Aichi Target 11 (https://www.bipindicators.net/indicators/red-list-index). It is an IPBES "core" indicator (http://www.ipbes.net/sites/default/files/downloads/pdf/ipbes-5-inf-5.pdf , p10) and included in Chapter 1, Table S4 (Page 74, Line 2611). Data for this indicator, disaggregated to the Asia-Pacific region and its subregions, were published in https://www.nature.com/articles/sdata20167 . The Americas regional assessment SOD Chapter 3 (Pages 43-46, Lines 1074-1122 + Figures 3.21, 3.22, and 3.23) and the Europe & Central Asia regional assessment SOD Chapter 3 (Pages 5-6, Lines 177-187; Pages 108-109, Lines 3060-3079 + Figure 3.45; & Pages 140-143; Lines 4012-4098 + Figure 3.54) could be used to provide helpful templates for development of such text and figures.	We added Figure 3.8: Overall extinction risk of species in the Asia Pacific region, Figure 3.9: Red List Indices of species survival in the Asia Pacific region, and corresponding descriptions in 3.2.6.2 Species extinction risks.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Thomas Brooks	Ch.3	6	253	6	253	This would be an appropriate place to insert a few paragraphs of text and associated figure on protected area coverage of key biodiversity areas, given the crucial importance of protected areas in safeguarding the biodiversity of important sites (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0032529), as well as policy alignment given that this indicator is used to track progress towards SDG Targets 14.5.1, 15.1.2, 15.4.1 and Aichi Target 11 (https://www.bipindicators.net/indicators/protected-area-coverage-of-key-biodiversity-areas). It is an IPBES "core" indicator (http://www.ipbes.net/sites/default/files/downloads/pdf/ipbes-5-inf-5.pdf , p10) and included in Chapter 1, Table S4 (Page 73, Line 2611). Data for this indicator, disaggregated to the Asia-Pacific region and its subregions, were published in https://www.nature.com/articles/sdata20167 . The Europe & Central Asia IPBES regional assessment SOD Chapter 3 (Page 5, Lines 170-176; Pages 105-108, Lines 3015-3059 + Figures 3.42, 3.43, 3.44) could be used to provide a helpful template for development of such text and figures.	We added Figure 3.5: Growth in the proportion of KBAs completely covered by protected areas in the Asia Pacific region, Figure 3.6: Growth in proportion of IBAs completely covered by PAs in the Asia Pacific sub-regions, and corresponding descriptions in 3.2.6.1.
Stuart Butchart	Ch.3	6	254	25	1117	3.2.1 Terrestrial Biomes: Add text in this section on the extinction risk of species and how this is changing over time, as shown by the Red List Index. See Butchart et al 2007 http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0000140 , Brooks et al 2016 https://www.nature.com/articles/sdata20167 .	We added Figure 3.8: Overall extinction risk of species in the Asia Pacific region, Figure 3.9: Red List Indices of species survival in the Asia Pacific region, and corresponding descriptions in 3.2.6.2 Species extinction risks.
Stuart Butchart	Ch.3	6	254	25	1117	3.2.1 Terrestrial Biomes: Add text in this section on protected area coverage, including PA coverage of key biodiversity areas, which is increasing but remains inadequate See Butchart et al 2012 http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0032529 and Butchart et al 2015 http://onlinelibrary.wiley.com/doi/10.1111/conl.12158/abstract , plus Brooks et al 2016 with the relevant regional data https://www.nature.com/articles/sdata20167 .	We added Figure 3.5: Growth in the proportion of KBAs completely covered by protected areas in the Asia Pacific region, Figure 3.6: Growth in proportion of IBAs completely covered by PAs in the Asia Pacific sub-regions, and corresponding descriptions in 3.2.6.1.
Saw Leng Guan	Ch.3	6	261	6	261	include Malaysia, Malaysia has over 50% forest cover	We have highlighted only countries with >70% or <25% forest cover, but Malaysia is near the median for SE Asia.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Prakash Nelliyat	Ch.3	7	269	7	270	"The total forest area increased in East Asia, South Asia, Western Asia, and Oceania". Is it also meaning the increase in the quality and richness of the forests with respect to biodiversity, especially the wild flora and fauna? Some discussions on this ground may useful.	We have now added a brief discussion of this important issue at the end of the forest section. The quality of the new forest areas has rarely been assessed, but a high proportion consists of exotic monocultures which do not support much native biodiversity, at least initially.
Shuli Niu	Ch.3	7	270	7	281	In Ch.1, the subregion "North east aisa" is called "east asia" here, not consistant	This has now been corrected.
André Mader	Ch.3	7	279	7	280	This table might be better for the reader as a figure (chart).	We have tried both, but the changes since 1990 at the subregional level are not very large, so a graph is less informative than a table.
IPBES Knowledge and Data Task Force (KD TF)/ Task Group on Indicators (TGI)	Ch.3	7	279	7	281	Table 3. 1: The table of Trends in forest extent (tree cover) can be replaced to the graphic which the IPBES Task Group on Indicators will provide soon	We have seen the graphic, but the changes since 1990 at the subregional level are too small to show clearly and we think the Table is more useful.
Yang Qingwen	Ch.3	7	282	7	283	mistake	This part was revised as follows: In Australia, reduced clearance resulted in an increase in forest area before 2000, while fires, droughts, and urban and agricultural development have caused fluctuations since (Department of Environment, 2016).
India NFP	Ch.3	7	290	7	292	The statement is not correct. There is an increase in total forest cover, if we refer the 1987 report and 2015 report of FSI on the extent of forest cover in India. In fact, there is a net increase in forest cover in Andaman and Nicobar islands as per India's State of Forest Report, 2015 (Forest Survey of India).This observation, which is incorrect may therefore be deleted.	We have deleted this sentence on India since the various sources do not agree.
Saw Leng Guan	Ch.3	7	293	7	293	include a landuse or human footprint map for the APR, this is more useful than the maps that are provided in this assessments, such a map will provide a better understanding of human impacts on the terrestrial ecosystems in the region. For example http://reliefweb.int/map/world/asia-pacific-regional-reference-map-human-footprint .	In this section we described states and trends of forest. Because human footprint map does not clearly show the states and trends of forest, and we did not include it here. We referred to the effects of land use change in many sections. Also, we described the urbanization issue in 3.2.1.6 Urban ecosystem and biodiversity.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Shuli Niu	Ch.3	7	303	7	305	Although only appears at the beginning of a sentence	The text is grammatically correct as it is.
Henry Scheyvens	Ch.3	7	307	7	309	Refer directly to FAO Forest Resource Assessment 2015. I very much doubt the figures support the statement that PNG has the second highest rate of forest loss.	We have checked this in the FAO FRA2015 and it is correct. Note that this refers only to PRIMARY forest loss, not forest loss overall. However, we finally deleted the figure because it simply duplicates Table 3.1.
Saw Leng Guan	Ch.3	8	315	8	315	Include in a box the example of forest loss in Borneo: see Gaveau DLA, Sloan S, Molidena E, Yaen H, Sheil D, Abram NK, et al. (2014) Four Decades of Forest Persistence, Clearance and Logging on Borneo. PLoS ONE 9(7): e101654. https://doi.org/10.1371/journal.pone.0101654	Due to the limitation of pages, we cannot refer to the state of each island in SE Asia. Considering you comments, however, we revised the description of forest loss in insular SE Asia as follows: The subregional rates of forest change hide high percentage losses in some countries and forest types. While an overall decline in forest cover in insular Southeast Asia between 2000 and 2010 was 1%/yr, peat swamp forests experienced clearly the highest deforestation rates at an average annual rate of 2.2%, and lowland evergreen forests declined by 1.2%/yr (Miettinen et al., 2011). Further, the rate of loss exceeded 5%/yr in the Sumatran lowlands and the peatlands of Sarawak, Malaysian Borneo, where around half of the forest cover in 2000 was lost by 2010 (Miettinen et al., 2011).
Yang Qingwen	Ch.3	8	321	8	322	what "access deaths" indicate? If it indicates people, it should be confirmed.	Yes, this is about people. This has now been made clear. We also added a recently published estimation for the burnt area as "4.6 million hectares (Lohberger et al. 2017) "
Margarita N. Lavides	Ch.3	8	326	8	326	Examples of bird and mammal species likely to go extinct should be given here along with the implications of its extinction e.g. loss of specific ecological function provided by that species.	The loss of seed dispersal by large vertebrates extinction is mentioned in the next paragraph.
Thomas Brooks	Ch.3	8	330	8	333	Good use of Brummitt et al. (2015) - retain	Thank you.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Shuli Niu	Ch.3	8	334	8	334	replace "as' with "which"	as' is correct here.
Shuli Niu	Ch.3	8	335	8	335	a few other studies are mentioned, but no literature was cited	We have cited the sources for all the information we give on predicted plant extinctions.
Shuli Niu	Ch.3	8	335	8	335	replace ", but in Japan" with " In Japan".	We revised this sentence as follows: Whereas there have been few other quantitative assessments of plant extinction risks in the APR, it has been estimated in Japan that ...
Margarita N. Lavides	Ch.3	8	342	8	354	It is striking that there is no mention of mining as one of the causes of forest degradation, along with logging and hunting. There are many examples of mining related forest destruction and community displacement in SEA especially in the Philippines. This should be mentioned in this section.	Logging and hunting are mentioned as 'the most pervasive impacts' on forests that have not been cleared, affecting most forests in the APR. Mining is a localized, but high intensity, impact, resulting in clearance. It is mentioned briefly in 3.2.1.8 and covered in more detail in Chapter 4 which deals with the drivers of biodiversity loss.
André Mader	Ch.3	8	343	8	344	Does "logging" here refer to "selective logging"? If not, is it the same as deforestation?	Logging is the harvesting of timber, as opposed to deforestation, which is conversion of forest to other land use. In most of the APR logging is selective and we have modified the text to make this clear.
Margarita N. Lavides	Ch.3	8	349	8	349	Examples of these large vertebrate species should be given here and the importance of having it protected, e.g. maintenance of specific ecological function provided by that species.	We have now given additional examples of species but the only published information on loss of function is for seed dispersal, which is already mentioned. It would be inappropriate for us to speculate further.
Margarita N. Lavides	Ch.3	8	354	8	354	Examples massively regionally traded wildlife and wildlife products should be given here and the implications of its depletion or species loss in terms of ecological function.	Thousands of species are involved, so giving a few examples would be misleading. Again, we could only speculate on loss of function.
André Mader	Ch.3	9	365	9	366	Aren't dry deciduous forests classified as woodland (and therefore belong under the section on forest & woodland)?	Not necessarily
Shuli Niu	Ch.3	9	401	9	401	replace "attributed" with "attributable"	Suggested change incorporated

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Shuli Niu	Ch.3	9	403	9	403	cite literatures that prove "more recently infrastructure development (fences, traffic lines) and agricultural expansion have become major obstacles"	We cited references as follow. Much of these declines in larger mammals are attributed to massive poaching, but more recently infrastructure development (fences, traffic lines; Batsaikhan et al., 2014) and agricultural expansion (Berger et al. 2013) have become major obstacles.
Elise Belle	Ch.3	9	405	9	405	"where the national Red List"	Suggested change incorporated
NFP of China	Ch.3	9	406	9	406	change "Tibet" to "Xizang"	Throuout the report, we used Tibetan Plateau except in citing the following reference: a number species in southeastern Xizang are threatened (Zhang et al. 2015)
Yang Qingwen	Ch.3	9	406	9	406	"southern Tibet" should be changed as "Southern Xizang". Tibet was an old name. Please change all in the report.	This part was revised as follows: a number species in southeastern Xizang are threatened (Zhang et al. 2015)
Tian Yu	Ch.3	9	410	9	415	Can not reflect the facts	This part was deleted.
Yang Qingwen	Ch.3	9	410	9	421	in the sentence "in north-west China, Tibetan plateau and Mongolia migratory pastoral", the geographic names are not equal. It is suggested to revise as: "in western China migratory pastoral" .	This part was deleted.
Shuli Niu	Ch.3	9	413	9	414	"(Wu, Zhang, Li, & Liang, 2015)(Gongbuzeren et al. 2015)." extra ")"	This part was deleted.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Jiang Zhigang	Ch.3	10	421	10	434	<p>I would like to add the Grassland and border fences also threaten the survival of wild animals:</p> <p>Ungulates like Tibetan antelope (<i>Pantholops hodgsonii</i>), Kiang, (<i>Equus kiang</i>), wild yak (<i>Bos mutus</i>), Przewalski's gazelle (<i>Procapra przewalskii</i>), Tibetan gazelle (<i>P. picticaudata</i>), Mongolian gazelle (<i>P. gutturosa</i>), roam on the steppes and grasslands of Asia. They need large open habitats - millions of Mongolian gazelles used to migrate across Eurasian grasslands, between the Inner Mongolian steppe in winter and steppes in Mongolia and Russia in summer. However, since WWII the construction of border fences has increased. More recently (since the 1990s) people have rapidly constructed grassland fences, ranging from Mangzhouli in Northeastern China to Xinjiang in Northwest China and up to the Tibetan Plateau. Building fenced grassland paddocks is regarded as a means of modernising the pastoralist system. Up to 2002, about 70% of grasslands in China were fenced, and recent studies have revealed that grassland and border fences threaten the survival of wild animals (1, 2). The wild horse is extinct and Saiga antelopes are also now regionally extinct in China.</p> <p>The habitat of wild animals are subject to both visible and invisible harms; grassland and border fences belong to the former, whereas overstocking may be responsible for the invisible destruction of grasslands. The integrative grassland management plan needed to protect wildlife in this region is not yet in place. Therefore a comprehensive domestic and wild animal management plan for sustainable development of grassland ecosystem is urgently needed. Otherwise, we will face a wave of wild ungulate extinction on grasslands in Asia.</p> <p>(1) You, Z. Jiang, Z., Li C. and Mallon D. 2013. Impacts of grassland fence on the behavior and distribution range of the critically endangered Przewalski's gazelle on the Qinghai-Tibetan Plateau. Chinese Science Bulletin 58: 2262-2268. doi: 10.1007/s11434-013-5844-9.</p> <p>(2) Linnell JDC, Trouwborst A, Boitani L, Kaczensky P, Huber D, Reljic S, et al. 2016. Border Security Fencing and Wildlife: The End of the Transboundary Paradigm in Eurasia? PLoS Biol 14: e1002483. doi:10.1371/journal.pbio.1002483</p>	By citing references, the threats of fences are described as follows. Most of the large grassland ungulates especially in temperate grasslands have declined in number. Much of these declines in larger mammals are attributed to massive poaching, but more recently infrastructure development (fences, traffic lines; Batsaikhan et al., 2014) and agricultural expansion (Berger et al. 2013) have become major obstacles.
Shuli Niu	Ch.3	10	440	10	440	change "stronger in moister" to "higher in humid"	This part was deleted.
David Bickford	Ch.3	10	449	11	455	Table 3.2 needs better explanation of color shading and direction of change dark to light	Done
Tian Yu	Ch.3	10	450	10	450	data used were too old, and different from the data published by China government, suggest delete	Modified suitably
NFP of China	Ch.3	10	454	10	454	change "Tibet" to "Xizang"	Throuout the report, we used Tibetan Plateau.
Elise Belle	Ch.3	11	469	11	469	"that has benefited the"	Thank you, this has been incorporated.
Elise Belle	Ch.3	11	476	11	478	"the PA system has important gaps [...] the existing PAs are not effectively managed and have limited relevance"	Thank you, this has been incorporated.
NFP of China	Ch.3	11	477	11	477	change "Tibet" to "Xizang"	Throuout the report, we used Tibetan Plateau and wherever administrative unit is required we used Xizang.
André Mader	Ch.3	11	480	11	482	Map needs a key (legend)	The map is replaced with a new one.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Brian Mac Sharry	Ch.3	11	481	11	481	Incorrect Source. Add Source of Protected areas on map as UNEP-WCMC and IUCN (2015) Protected Planet: The World Database on Protected Areas (WDPA)[On-line], [2015], Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net	This map was deleted.
Elise Belle	Ch.3	11	481	11	482	"Distribution of protected areas according the World Database on Protected Areas (WDPA) (UNEP-WCMC and IUCN, 2017)". Add date (2017 or earlier) and reference as: <i>UNEP-WCMC and IUCN (2017). Protected Planet. Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net.</i>	This map was deleted.
Elise Belle	Ch.3	12	483	12	484	Delete 'The database [...] et al., 2016]'	Suitably modified
Harald Pauli	Ch.3	12	492	12	492	I assume that 2 million km ² would include also flat plateau areas in China/Tibet. According to Körner (2012), the global area of lower, upper alpine and nival terrain is 3.55 km ² , but where only rugged terrain is considered (Körner C 2012. Alpine treelines. Springer)	Rewording done as follows: a considerably large area
Harald Pauli	Ch.3	12	492	12	496	under 'Greater Himalaya' often only the highest part of the Himalayas is understood (only shared between Nepal, India, China); instead I suggest to use here 'Himalaya-Hindu-Kush region' (such as used by ICIMOD), which would include also the eastern and western Himalayas, Karakoram, Hindu Kusk and likely also the Sulaiman range; 'high mountain areas of Iran' should be mentioned in addition, and of Australia (the latter rather small, but unique). Pamir, Tian Shan and Altai mountains are partly treated in the ECA assessment, but a large share would be part of APR.	To avoid confusion we use word Himalaya that includes entire Himalayan renge; other suggestions incorporated
Harald Pauli	Ch.3	12	493	12	493	suuggest to slightly change to: '...the alpine habitats including alpine scrub, meadows and open high-elevation vegetation...' (the latter, open vegetation of scattered plant assemblages is expected to cover large parts of the periglacial lands around the cryosphere)	Rewording done
Saw Leng Guan	Ch.3	12	494	12	295	Mt. Kinabalu does not have alpine meadow. It has only sub-alpine vegetation at and near its summit. Puncak Jaya, West Papua of Indonesia has true alpine vegetation including alpine meadows and scrubs. It is among the very few mountains in the tropics with glaciers	Needs further clarification; suggestions incorporated

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Harald Pauli	Ch.3	12	499	12	500	<p>The overall alpine biodiversity is both outstandingly rich in some parts, and/or with high degrees of endemic species in some (other) regions, and very large differences climatically as well as biogeographically. Therefore I suggest to reflect this here in brief, e.g.: 'Besides the outstandingly rich biodiversity in the Himalaya region (especially in its eastern part), e.g. as shown for vascular plants by Mutke and Barthlott (2005), plant diversity of the upper vegetation belts is often composed to a large degree of locally endemic species in some regions, such as in the mountains of Iran (Noroozi et al. 2011), equatorial tropical montains (Hope 2014), Australia (Costin et al. 2000) and New Zealand (Mark and Adams 1995).'</p> <p>References: Mutke J, Barthlott W 2005. Patterns of vascular plant diversity at continental to global scales. Biol. Skr. 55: 521-531. Noroozi J, Pauli H, Grabherr G, Breckle S-W 2011. The subnival–nival vascular plant species of Iran: a unique high-mountain flora and its threat from climate warming. Biodiversity Conservation 20: 1318-1338. Hope G 2014. The Sensitivity of the high mountain ecosystems of New Guinea to climatic change and anthropogenic Impact. Arctic, Antarctic and Alpine Research 46: 777-786. Costin AB, Gray M, Totterdell CJ, Wimbush DJ 2000. Kosciuszko alpine flora. Second edition. CSIRO Publishing. Mark AF and Adams NM 1995. New Zealand alpine plants. Second edition. Godwit.</p>	Suggestions incorporated
NFP of China	Ch.3	12	510	12	510	change "Tibet" to "Xizang"	Suggestions incorporated
Elise Belle	Ch.3	12	527	12	527	"However, to date no long term studies have yet proven"	This has been revised.
Harald Pauli	Ch.3	12	527	12	528	However, there are only very few long-term studies reporting on such shifts.'	This has been revised.
Elise Belle	Ch.3	12	529	12	529	"with increasing temperatures, fitness of a native"	This has been revised.
Harald Pauli	Ch.3	12	531	12	533	suggest to add: 'A study in alpine regions of Sikkim, India, has revealed that the plant assemblages of especially endemic species have been affected by ongoing global warming through species range shifts (Telwala...'	Suitably modified
Harald Pauli	Ch.3	12	533	12	533	suggest to enter after '...Pandit, 2013)': 'Expansions of dwarf bamboo into alpine meadows and associated impacts on alpine species diversity were observed in northern Japan (Kudo et al. 2011).'	Thanks. Done.
						Ref.: Kudo G, Amagai Y, Hoshino B, Kaneko M 2011. Invasion of dwarf bamboo into alpine snow-meadows in northern Japan: pattern of expansion and impact on species diversity. Ecology and Evolution 1: 85-96.	
NFP of China	Ch.3	13	534	13	534	change "Tibet" to "Xizang"	Done; Tibet changed to Tibetan Plateau;
NFP of China	Ch.3	13	540	13	540	change "Tibet" to "Xizang"	This has been revised.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Elise Belle	Ch.3	13	553	13	554	"Some of the largest PAs are located in Tibet, the largest PA in the APR being Qiangtang, covering 298,000 km ² (UNEP-WCMC and IUCN, 2017)". Reference: <i>UNEP-WCMC and IUCN (2017). Protected Planet. Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net.</i>	Suitably modified
NFP of China	Ch.3	13	554	13	554	change "Tibet" to "Xizang"	This has been revised.
NFP of China	Ch.3	13	558	13	558	change "Tibet" to "Xizang"	This has been revised.
Thomas Brooks	Ch.3	13	572	13	574	Extinction risk of <i>Panthera uncia</i> has not increased: it has been assessed as Endangered since 1986 (Jackson et al. [2008] http://www.iucnredlist.org/details/full/22732/0). <i>Ovis ammon</i> is not Endangered (Harris & Reading [2008] http://www.iucnredlist.org/details/full/15733/0). Correct accordingly.	Thanks for the comment. <i>Panthera uncia</i> applied. Argali sheep status has changed in 2008 as Near threatened. In 1996, it was vulnerable. However, argali sheep is endangered at regional level. We rephrased the sentence according to the comments.
Thomas Brooks	Ch.3	13	575	15	578	Good use of these three examples - retain	Thank you.
Thomas Brooks	Ch.3	14	596	14	601	Good examples. However there is no formal assessment of extinction risk of <i>Panthera pardus</i> nimr (see Stein et al. [2015] http://www.iucnredlist.org/details/full/15954/0) so maybe modify this to say "likely Critically Endangered". Also add citation to BirdLife International (2017) http://www.iucnredlist.org/details/full/22696495/0 for <i>Falco cherrug</i> .	Thanks for the comment. We modified the text based on the recommendation.
Thomas Brooks	Ch.3	14	615	14	615	<i>jubatus</i> not <i>jubata</i>	Thanks. Corrected.
IPBES NFP - Australia	Ch.3	14	622	15	646	We would like to enhance this section with the inclusion of more information about the impacts of cats. Text has been proposed with references. There are several threats to these deserts, such as invasive alien species, especially vertebrate predators including feral cats (Department of the Environment, 2015), feral wild camels (Saalfeld et al., 2010) and cane toads (Fitzsimons, Nature Conservancy (Australia), Australian Wildlife Conservancy., & Pew Environment Group., 2010) Feral cats have directly driven 22 native Australian species to extinction including two desert dwelling bilbies, the desert bandicoot and the rusty numbat. They have put extinction pressure on a further 124 Australian threatened species - like Mala wallaby, the Night parrot, and the Golden bandicoot. Ongoing unravelling of a continental fauna: Decline and extinction of Australian mammals since European settlement, John C. Z. Woinarski, Andrew A. Burbidge, and Peter L. Harrison <i>Proceedings of the National Academy of Sciences of the United States of America</i> 2015.	Thank you very much for the contribution. We rephrased the paragraph based on the proposed text.
Elise Belle	Ch.3	15	639	15	640	"between 1986 and 2002, which has caused the acidification"	Thanks. Corrected.
Elise Belle	Ch.3	15	650	15	650	"total coverage of protected desert"	Thanks. Corrected.
André Mader	Ch.3	15	657	15	659	What about the interior of the Arabian peninsula? Is that not desert as well?	Thanks for the comment. We corrected the text, and corresponding map accordingly.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Elise Belle	Ch.3	16	661	16	662	"by area and country, current percentage coverage and 50 years trends in"	Thanks. Corrected.
André Mader	Ch.3	16	661	16	664	This figure might need more reference and explanation in the text	Thanks for the comment. The rephrased the caption.
Shuli Niu	Ch.3	16	661	16	664	Table 3. 3: what does ¥ and € indicate? Why do you use superscript 2. 3. 4?	Thanks. Corrected.
André Mader	Ch.3	16	665	21	907	The definition of agro-biodiversity, and its relationship with biodiversity in general, is not clear here.	This is a sub-section under the section "Terrestrial Ecosystems". Hence definition of the term agrobiodiversity was not attempted.
André Mader	Ch.3	17	677	17	677	Central Asia is outside Asia-Pacific region	agreed and text modified. Central Asian figures have been subtracted from the FAO figures for APR reported elsewhere in this subsection.
Elise Belle	Ch.3	17	679	17	679	"of them landless, motly indigenous ethnic"	Thank you, this has been amended.
André Mader	Ch.3	17	682	17	685	It would be good to know what percentage of total agro-ecosystems are taken up by these small farms	Unfortunately, such data for the AP region are hard to find.
Margarita N. Lavidés	Ch.3	17	697	17	697	A few examples of ecosystem services should be briefly mentioned here.	The ecosystem services include provisioning, regulating, cultural and supporting services. These are already implied in the statement under reference. Hence no change made in the text.
Elise Belle	Ch.3	17	706	17	706	"are also varied and include"	Thanks. corrected.
Yang Qingwen	Ch.3	17	714	17	723	Monoculture is an important factor to impact biodiversity especially at genetic diversity level in agroecosystems. The analysis is too simple for monoculture. It is suggested to have more references to deal with monoculture issues.	Text modified by inserting new references
Elise Belle	Ch.3	17	715	17	725	"South-East Asia suffer from two man problems: intensification"	Thank you, this has been amended.
Elise Belle	Ch.3	17	716	17	718	"There is a rising demand for agriculture [...], however, this creates new obligations"	Thank you, this has been amended.
Shuli Niu	Ch.3	17	739	17	740	is the degraded cropland less likely to contribute to Or is the degraded land negtatively affect biodiversity?	I think the sentence reads well. Hence no change made in the text..
Dr. Taku Fujita & Dr. Shinichi Takagawa	Ch.3	18	730	18	732	It should be added to the following red marked literature [Despite these problems, wildlife friendly farming has increased in some parts of Japan and it has led to recovery of threatened species (T. Miyashita, Yamanaka, & Tsutsui, 2014; Ministry of the Environment 2014) Reference Ministry of the Environment (2014) "Integrated Assessment Report of Monitoring Sites 1000 Satoyama 2nd term survey (2007-2012)" (in Japasese with English abstrunct), Ministry of the Environment, 67pp. http://www.biodic.go.jp/moni1000/findings/reports/pdf/second_term_satoyama.pdf	Thanks. This additional reference is now inserted in the text.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Yang Qingwen	Ch.3	18	734	18	740	This paragraph is not likely correct. Abandoned land generally could rich biodiversity even without restoration. Please consider whether the conclusion is correct.	Thanks for the suggestion. The avialbale reports indicate that as vegetation succession changes the dominant species in rice fields from aquatic to terrestrial species, which often include invasive grasses, abandoned lands may have lower biodiversity. Hence no change made in the text.
Dr. Taku Fujita & Dr. Shinichi Takagawa	Ch.3	18	737	18	737	It should be added to the following sentences at the end of Line 737. [As a result of survey at about 200 monitoring sites of "Monitoring sites 1000 SATOYAMA" program in Japan, citizen volunteers managed at about 40% of the sites, despite abandonment of agricultural management in more than half of the sites. In some of them it has led to recovery of threatened species(Ministry of the Environment 2014).] Reference Ministry of the Environment (2014) "Integrated Assessment Report of Monitoring Sites 1000 Satoyama 2nd term survey (2007-2012)" (in Japasese with English abstract), Ministry of the Environment, 67pp. http://www.biodic.go.jp/moni1000/findings/reports/pdf/second_term_satoyama.pdf	Thanks. Text amended.
Prakash Nelliyat	Ch.3	18	749	18	751	"Land degradation has caused a decline in diversity of native vegetation which has been replaced by invasive and dominant weed"; Few prominent examples from the APR may useful for substantiating this argument.	Text amended b.y inserting new reference
Shuli Niu	Ch.3	18	755	18	755	replace "presently" with "currently"	done
Elise Belle	Ch.3	18	757	18	757	Any more recent reference?	There has been no recent assessments on this after the GLASOD (1992). Sentence dropped.
Shuli Niu	Ch.3	18	777	18	777	replace "caused" with "causing"	Thanks. Done.
Elise Belle	Ch.3	19	779	19	779	"In several Asian countries,"	Thanks. Done.
André Mader	Ch.3	19	789	19	790	This TOFs definition might overlap with the definition of forests and woodland earlier in the chapter, which includes some but not all plantations.	According to FAO (1997), trees outside the forest, by default, are all trees excluded from the definition of forest and other wooded lands. A large number of TOF consist of planted or domesticated trees. TOF include trees in agroforestry systems, orchards and small woodlots. Text amended.
Elise Belle	Ch.3	20	831	20	831	"manure, timber, and medicine"	Thanks. Done.
Elise Belle	Ch.3	20	834	20	834	"are reported to provide up to 56% of the family"	Thanks. Done.
Elise Belle	Ch.3	20	855	20	856	"for the delivery of diverse and irreplaceable ecosystem services. Growing trees in the agricultural"	Thanks. Done.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Elise Belle	Ch.3	20	864	20	865	"recognized as an advantageous option for mitigating greenhouse gases under the Kyoto Protocol, an important mechanism to"	Thanks. Done.
Elise Belle	Ch.3	20	870	20	870	"It is now recognized as a source"	Thanks. Done.
André Mader	Ch.3	20	877	20	879	More relevant as a reference in chapter 6?	Thanks. No change made in the text. May be communicated to the Chapter 6 colleagues for necessary action. No change made in the text.
Margarita N. Lavides	Ch.3	21	884	21	891	The following should be included after the end of sentence Line 891 : In the Philippines, NGOs such as Haribon Foundation and Foundation for Philippine Environment along with academe and other civil society partners are collaborating to sustain the Rainforestation Agenda through support for the Rain Forest Restoration Initiative (RFRI) Network. This Network aims to advance and promote Rainforestation as a strategy to rehabilitate degraded landscapes and restore key ecosystem services and functions while providing forest-dependent communities with an alternative source of livelihood. Rainforestation is a tested science-based approach that advocates the use of native species in forest restoration. The Network has trained more than 1000 Rainforestation trainers, established over 3,527.37 hectares of Rainforestation sites, and planted more than 1 million native tree seedlings nationwide. The Network is currently strengthening the promotion of the use of native species in forest restoration; developing the technical capability of network members and practitioners on the use of native species; supporting and conducting researches on native tree species; enhancing Rainforestation knowledge materials, further developing linkages, and strengthening the capacity of the RFRI Network. Recently it collaborated with Bristol Zoological Society and other academic and NGO partners to use Rainforestation as main strategy to conserve and protect Critically Endangered endemic bird Negros Bleeding Heart (www.rainforestation.ph)	Thanks. Although this is an interesting initiative, we do not think it constitutes appropriate material for this section.
Elise Belle	Ch.3	21	898	21	898	"it constitutes a significant"	Corrected
Prakash Nelliyat	Ch.3	21	908	23	1001	Since APR (particularly the developing nations) is experiencing rapid urbanization, mass public awareness regarding the significance of urban biodiversity and ecosystems for better life, is required. This issue may be incorporated in this section.	This subsection is about assessment of an ecosystem not public awareness
André Mader	Ch.3	21	913	21	913	Israel is not in Asia-Pacific region as defined for IPBES	Israel has now been removed from this sentence.
Elise Belle	Ch.3	21	919	21	920	This depends on which definition of a city is used. What is the reference?	We have followed United Nations (2015) and now cite this source.
David Bickford	Ch.3	22	961	22	961	add section on amphibians and the importance of heterogeneity of breeding sites being one of the most important factors for the maintenance of amphibian biodiversity in urban areas (cite Bickford, D., T.H. Ng, L. Qie, E.P. Kudavidanage, and C.J.A. Bradshaw. 2010. Forest fragment and breeding habitat characteristics explain frog diversity and abundance in Singapore. <i>Biotropica</i> 42 (1): 119-125.)	We have now added a sentence on urban frogs, citing this reference and one from Zhang et al. 2016 on Shanghai.
Margarita N. Lavides	Ch.3	22	967	22	969	Extinction debt should be defined in Line 969.	We have clarified this.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
André Mader	Ch.3	23	984	23	1001	This looks like it should be in chapter 2	We have a single sentence here because it is part of 'status and trends'.
Margarita N. Lavides	Ch.3	23	993	22	997	Ecological services provided by biodiversity in ecosystems in distant locations include freshwater as sourced from surrounding watershed of cities. For example, Metro Manila sourced its freshwater from surrounding watersheds of Bulacan and possibly from as far north as Cordillera through the dam system.	We now make clear that freshwater may be sourced from further away.
André Mader	Ch.3	23	1003	24	1056	Anything on island protected areas?	We have now added a sentence on the particular challenges of establishing PAs on islands.
Prakash Nelliyat	Ch.3	23	1003	24	1056	Island Economies, particularly the “Small Island Developing States (SIDS)” is shaped by the rich biodiversity and the natural resources in their immediate environment. In the light of above fact some discussion is useful on APRs island biodiversity/ecosystem with respect to the island dwellers life and economy.	This chapter reports 'status and trends', while a discussion of the role of biodiversity in supporting human life is covered in earlier chapters.
Elise Belle	Ch.3	23	1006	23	1006	"mainland (i.e. oceanic islands). Most are located in the Pacific Ocean, but"	We think our current version is clearer, since this use of the term 'oceanic islands' is technical.
André Mader	Ch.3	23	1018	23	1019	<i>Areas of comparable size</i> on continents? Presumably this does not refer to whole continents?	Yes. This has now been made clear.
André Mader	Ch.3	23	1025	24	1027	APR or globally?	Globally, but most examples given in the sources are from the APR.
Thomas Brooks	Ch.3	23	1025	24	1027	Good use of Ricketts et al. (2005) - retain	Thank you.
Elise Belle	Ch.3	24	1038	24	1038	"Very high rates of extinction have also been"	We have changed this as suggested.
Shuli Niu	Ch.3	24	1060	24	1060	delete "that"	'that' is correct here.
Shuli Niu	Ch.3	24	1076	24	1076	"and cultural"-->as well as cultural	We have changed this as suggested.
Shuli Niu	Ch.3	24	1407	24	1407	naïve island species????? Move "and climate changes" after invasion	Naive' is correct here, meaning no previous exposure.
Elise Belle	Ch.3	25	1078	25	1078	"for agriculture or by being located within the boundaries of protected areas. However,"	We have rewritten this section for clarity.
Elise Belle	Ch.3	25	1090	25	1090	"particularly in New Caledonia"	Changed as suggested.
David Bickford	Ch.3	25	1119	32	1441	in Freshwater and Inland waters section 3.2.2, please add more turtle references to include Batagur being the most endangered genus of turtles on the planet and all spp endemic to Asia. Also add amphibians and snakes found in Tonle Sap and importance of these habitats to humans and the food production value of the homolopsid snakes in Tonle Sap directly	Added about Batagur baska from line number 1229 to 1231
Prakash Nelliyat	Ch.3	25	1119	41	1441	Under the “Fresh Water and the Inland Wetlands” head, Ground water over-extraction related issues on ecosystem and biodiversity also to be discussed. Aquifer is the source of domestic, agriculture and industrial water supply in many part of APR and groundwater depletion is reported from different pockets. Hence reduction in groundwater table and related environmental issues like pollution, seawater intrusion, etc. might be major environmental concerns.	Thank you. We have not reflected this as it is not relevant in this part

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Binaya Raj Shivakoti	Ch.3	25	1121	25	1125	Too gnereal statements, better to delete.	We have not reflected this as we did not see the relevance.
Elise Belle	Ch.3	25	1122	25	1123	Delete web link.	This has been revised.
Pham Ngoc Bao	Ch.3	25	1122	25	1123	http://ramsar.rgis.ch/cda/en/ramsar-documents-guidelines1123-classification-system/main/ramsar/131-105%5E21235_4000_0 should be removed	This has been revised.
Binaya Raj Shivakoti	Ch.3	25	1125	26	1133	Glacier retret and GLOF in the sentence does not releate well with IPBES scope	Deleted
André Mader	Ch.3	25	1142	25	1144	The grammar here makes it sound like chordates are said to be invertebrates.	This has been revised.
André Mader	Ch.3	25	1158	25	1158	Which islands are included under "Pacific islands"? Does that include the Hawaiian archipeago?	Done; and it seems that the Hawaiian archipeago was not included
Elise Belle	Ch.3	26	1130	26	1132	"and management on the downstream communities are urgent problems [...] and wildlife are future issues which will need to be addressed in the future"	We have not reflected this as we did not see the relevance.
Binaya Raj Shivakoti	Ch.3	26	1135	26	1140	Global scope and too general, better to delete them	This has been revised.
Margarita N. Lavides	Ch.3	26	1135	28	1239	A lot of freshwater species threatened status statistics and information but there is no mention of the implications of its likely loss e.g. severed or reduced specific ecological functions. At least some of the known ecological functions that might be likely lost or reduced for some threatened freshwater fishes should be mentioned. Or the overall implications of species loss in the ecology of freshwater ecosystem should also be mentioned. Otherwise, there is no meaning in it other than a list of threatened species.	Modified suitably
Elise Belle	Ch.3	26	1142	26	1142	"arthropods are by far the most diverse. They are represented"	already incorporated
IPBES NFP - Australia	Ch.3	26	1142	26	1144	Wouldn't the diversity of microbes be greater? Maybe clarity would come from including text such as 'of all animal life forms...'	incorporated
Binaya Raj Shivakoti	Ch.3	26	1142	26	1150	General and irrelevant to APR of IPBES	We have not reflected this as we did not see the relevance.
Elise Belle	Ch.3	26	1146	26	1147	"According to IUCN (2009), about 37% of freshwater"	Incorporated
Thomas Brooks	Ch.3	26	1148	26	1148	Cylindraspis triserrata is actually extinct, not "facing threats of extinction" (see WCMC [1996] http://www.iucnredlist.org/details/full/6064/0) so delete	This has been revised.
Thomas Brooks	Ch.3	26	1148	26	1149	Aonyx cinereus (Vulnerable), Alligator sinensis (Critically Endangered), and Tomistoma schlegelii (Vulnerable) are indeed good examples; add references to Wright, de Silva, Chan & Reza Lubis (2015) http://www.iucnredlist.org/details/full/44166/0 , CSG (1996) http://www.iucnredlist.org/details/full/867/0 , and Bezuijen, Shwedick, Simpson, Staniewicz & Stuebing (2015) http://www.iucnredlist.org/details/full/21981/0 , respectively	Modified suitably
Elise Belle	Ch.3	26	1149	26	1149	"false gharial and the freshwater crocodile (IUCN Red List, [ADD DATE])."	Date added
Ivxianguo	Ch.3	26	1154	26	1154	the scientific evidence of the rapid population decline of the birds are not enough, especially including the monitoring date fot the global birds	Thank you, we have considered this in the revision.
Thomas Brooks	Ch.3	26	1155	28	1239	This section is well written with excellent underpinning evidence - good work	Thank you.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Shuli Niu	Ch.3	26	1158	28	1239	I think you started to describ the subregions in a case by case manner in this part with each paragraph represents a subregion or nation. However, from 1183 to 1200, the two paragraph is confusing. The paragraph starting from 1183 is obviously an extended discussion of SE Asia, but it is in another graph. The following paragraph started with "There is a high degree of freshwater fish endemism across this region". I thought it is another extension of SE Asia since you mentioned this region but not clarify which region you are talking about. Then I see "South Korea" in the example. If you mean to talk about the North east Asia, it is better to say that at the begining of the paragraph, like other graphs in this section.	Modified suitably
IPBES NFP - Australia	Ch.3	26	1711	26	1712	There have been surveys on seamounts in Australia and New Zealand for orange roughie (maybe also other areas). These may have also been done for other species.	Thank you, we have considered this in the revision.
Thomas Brooks	Ch.3	27	1179	27	1181	Citation is Ng (2011) http://www.iucnredlist.org/details/full/180996/0	incorporated
Elise Belle	Ch.3	27	1183	27	1184	"2007), with the status of endemic populations in the Philippines being more variable"	done earlier
Elise Belle	Ch.3	27	1188	27	1188	"of the other countries. However, the freshwater fish"	done earlier
Elise Belle	Ch.3	27	1199	27	1199	"only 545 of the estimated 920 species have"	done earlier
Government of Japan	Ch.3	27	1203	27	1206	We would like to suggest updating Japan's national Red List as follows: "Japan's national Red List of Japanese freshwater fishes (Ministry of the Environment - Government of Japan, 2017) indicates around half of all species are threatened, three of which are Extinct, 71 Critically Endangered, 54 Endangered, 44 Vulnerable, and a further 34 species are Near Threatened.	done earlier
Elise Belle	Ch.3	27	1204	27	1204	"indicated that around"	This has been revised.
Elise Belle	Ch.3	27	1213	27	1213	"catchments represent fish biodiversity hotspots, with over 520"	done earlier
Elise Belle	Ch.3	27	1229	27	1229	"endemism and threatened species"	This has been revised.
Elise Belle	Ch.3	28	1234	28	1234	"is still relatively poorly explored"	This has been revised.
Elise Belle	Ch.3	28	1257	28	1258	Delete web link.	This has been revised.
Elise Belle	Ch.3	28	1271	28	1271	Could perhaps delete old reference of Weltner (1901)	This has been revised.
Thomas Brooks	Ch.3	28	1272	28	1274	Citation is Gatus (2010) http://www.iucnredlist.org/details/full/176747/0	This has been revised.
Shukla Acharjee	Ch.3	28	1275	28	1275	after Luzon bracket close then comma	This has been revised.
Shuli Niu	Ch.3	28	1275	28	1275	missing ") " after Luzon	This is not needed.
Elise Belle	Ch.3	28	1278	28	1279	"(4 million years old), [...] but also provides a variety of"	This has been revised.
Elise Belle	Ch.3	28	1280	29	1281	44 of what? Considered threatened or simply assessed on the IUCN Red List? Date of the assessment?	done earlier
Elise Belle	Ch.3	29	1281	29	1281	"2012). It is estimated that 45 introduced species"	This has been revised.
lvxianguo	Ch.3	29	1293	29	1295	the data of the number of the lakes in Changjiang river should be updated	Thank you. We have tried to find sources.
Elise Belle	Ch.3	29	1298	29	1298	"overfishing, as well as the disconnection of rivers and lakes"	done earlier
Elise Belle	Ch.3	29	1303	29	1304	"Critically Endangered species"	This has been revised.
Thomas Brooks	Ch.3	29	1303	29	1304	Citation is Raghavan & Ali (2011) http://www.iucnredlist.org/details/full/172345/0 - add	This has been revised.
Thomas Brooks	Ch.3	29	1304	29	1305	Citation to http://www.iucnredlist.org/details/full/176986/0 is actually Rehel et al. (2011); note too that it is assessed as Data Deficient, although it is indeed "considered to be extinct from the type locality". Amend example accordingly.	This has been revised.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Saw Leng Guan	Ch.3	30	1331	30	1340	include reference to the rich fish diversity in the Mekong River of 898 indigenous species. See Biophysical environment of an international river basin, Edition: Valbo-Jørgensen, J. et al. 2009. Chapter 8: Fish diversity in the Mekong River basin, Publisher: Academic Press, Elsevier, Editors: Ian C. Campbell, pp.161-196	This has been revised.
NFP of China	Ch.3	30	1331	30	1355	We suggest to change the 2 paragraph to one, as " Streams and rivers in China have been dramatically impacted by anthropogenic disturbances with rapidly increased human activities. China has 920 freshwater fish species with 613 endemic species (Kang et al., 2013), among them at least 717 freshwater fish species in China's rivers (Dudgeon, 2000). China has 92 threatened freshwater fish species (9 orders, 24 families and 78 genera).In Yangtze River Basin that has a global significant for aquatic biodiversity, there are 361 native fish species (Fu, Wu, Chen, Wu, & Lei, 2003). The Three Gorges Dam (TGD) imposes significant impact on biodiversity in Yangtze River by modifying flow and temperature, changing water chemistry, and blocking the migratory path of aquatic species (Shouqi Xie, Li, Liu, Wang, & Murphy, 2007) including about 148 endemic fish species (Fu et al., 2003). It is known that over 80% of these species breed in upstream tributaries of TGD (Heiner, Higgins, Li, & Baker, 2011), of which 25 species are listed in the National Red Data Book for threatened Chinese fish.	Thank you, this has been considered in balance with the rest of the chapter.
Elise Belle	Ch.3	30	1342	30	1342	"In the Yangtze River Basin, which is globally significant for aquatic biodiversity, there are"	This has been revised.
Ivxianguo	Ch.3	30	1346	30	1348	关于三峡大坝修建与本地区物种灭绝之间的关系, 目前并无确切的研究表明三峡大坝修建是导致本地区25种鱼类被列入“National Red Data Book for thereatended Chinese fish”的直接原因。	Thank you, this has been considered in balance with the rest of the chapter.
Pham Ngoc Bao	Ch.3	30	1348	30	1348	"waste water" or "wastewater": should be consistent in the whole report. "wastewater" should be an appropriate word	This has been revised.
Elise Belle	Ch.3	30	1349	30	1350	"pesticides and illegal electric fishing are some of the factors contributing to losses in fish, especially during the dry season. The extinction"	done earlier
Peng Cui	Ch.3	30	1350	30	1351	The Yangtze river dolphin (Baiji) was assessed as Critical Endangered in China Red list in 2015. These is insufficient evidence to declare extinction of Baiji.	This has been revised.
Elise Belle	Ch.3	30	1351	30	1352	"two examples of endangered species are the sturgeon and Chinese paddlefish which have been"	done earlier
Margarita N. Lavides	Ch.3	30	1369	30	1371	Please include: available information on biology and ecology of inland water taxa as also likely lacking as one of the reasons for inadequate representation of biodiversity in the development planning process. More often, when we do not know the ecological significance and its contribution to human well being of specific flora and fauna, we tend to devalue or ignore them and thus exclude them or biodiversity concerns from human endeavours such as development planning process.	Thank you, this has been considered in balance with the rest of the chapter.
Jyotirmoy Shankar Deb	Ch.3	30	1375	32	1440	Needs more clarification about the threats of loss/degradation.	Thank you, this has been considered in balance with the rest of the chapter.
Thomas Brooks	Ch.3	30	1381	31	1382	Tomistoma schlegelii is Vulnerable not Endangered (Bezuijen, Shwedick, Simpson, Staniewicz & Stuebing [2015] http://www.iucnredlist.org/details/full/21981/0) correct accordingly.	This has been revised.
Elise Belle	Ch.3	31	1383	31	1383	"plant communities and lentic animal"	done earlier
Elise Belle	Ch.3	31	1389	31	1390	"in aquatic animals, with an endemism of 46% for Australia, 43% for the Oriental region and 7.4% for the Pacific."	done earlier

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Elise Belle	Ch.3	31	1394	31	1394	"highest in the western Pacifi region"	done earlier
Elise Belle	Ch.3	31	1396	31	1396	Which reasons?	Modified suitably
André Mader	Ch.3	31	1407	31	1408	Are coastal wetlands considered to be inland wetlands?	Modified suitably
André Mader	Ch.3	31	1422	31	1444	Quite a lot of jargon here.	Modified suitably
Elise Belle	Ch.3	31	1423	31	1423	"would go extinct globally by 2050"	done earlier
André Mader	Ch.3	32	1433	32	1434	Why include future trends in a box and not in the main text? That is not consistent with the style of the rest of the chapter.	Thank you, this has been restructured.
Elise Belle	Ch.3	32	1433	32	1434	Box3.1: 'Peatlands of continental highland Asia' "is termed a 'mire'. They"; "temperatures and are hance susceptible to"	Box 3.1 is now Box 3.2 and text has been suitably rephrased
Elise Belle	Ch.3	32	1443	37	1624	Section '3.2.3 Coastal' should be proofread by a native English speaker as there are many spelling and grammar mistakes (notably many articles are missing), especially sections 3.2.3.6, for which I do not suggest any edits given the high number of corrections needed.	Thank you, this has been done by authors to the extent possible.
MDFortes	Ch.3	32	1443	37	1624	This section is too biased in favor of available expertise in the assessment. In addition, it should be emphasized that globally among the major coastal ecosystems especially in APR, coral reefs is the most popular, mangroves the most destroyed and seagrass beds the least studied. But they all play major complementary roles in sustaining the integrity of the coasts.	We depend on availability of data that are comparable
André Mader	Ch.3	33	1449	33	1456	IAS might need more of an introduction here	incorporated in text
Elise Belle	Ch.3	33	1451	33	1451	"higher than elsewhere)"	Incorporated in text
Shuli Niu	Ch.3	33	1451	33	1451	missing ") " after North Asia	Incorporated in text
Shukla Acharjee	Ch.3	33	1465	33	1465	after 75% bracket close	Corrected in text
Shukla Acharjee	Ch.3	33	1466	33	1466	the last 3 decades	Corrected in text
Shukla Acharjee	Ch.3	33	1467	33	1467	the last 25 years	Corrected in text
Elise Belle	Ch.3	33	1471	33	1471	Reference?	Reference added
Elise Belle	Ch.3	33	1472	33	1472	"accounting for 30% of the loss. Paddy"	Thank you, this has been corrected.
MDFortes	Ch.3	33	1478	33	1478	It is worth inserting this sentence: "The die-back of some 7000 hectares of mangroves in the Gulf of Carpentaria, Australia, in November-December 2016 is most likely caused by an extended drought period (Duke et al. 2017).	Added in the text (Complete reference to be added in the Reference section)
Elise Belle	Ch.3	33	1481	33	1482	Delete web link.	Deleted in the text
Elise Belle	Ch.3	33	1483	33	1484	How and why has it increased?	Suitably modified
André Mader	Ch.3	34	1489	34	1489	Are estuaries included here? If so, it is not clear.	Estuaries are not included here.
Elise Belle	Ch.3	34	1494	34	1495	"on the coastline is very narrow, fragile and is"	Corrected in the text
Elise Belle	Ch.3	34	1506	34	1507	"Sandpipers are very likely to go extinct although"	Corrected in the text
MDFortes	Ch.3	34	1514	35	1531	This section is so underrepresented. There are so much information (especially new ones and in the region where seagrasses used to be practically unknown) on this previous untapped and unstudied resource. Need any help here?	Appreciate if can help. Thank you
André Mader	Ch.3	34	1514	35	1544	Nothing about taxa and generally a bit short on information compared to other sections	Thank you. We would need some concrete sources to complement.
Elise Belle	Ch.3	34	1519	34	1519	"a few kilometres long along the coast"	Corrected in the text
Elise Belle	Ch.3	35	1526	35	1526	"not only due to human activities but also to natural"	Corrected in the text
Shukla Acharjee	Ch.3	35	1529	35	1529	during the last 30 years	Corrected in the text

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
MDFortes	Ch.3	35	1530	35	1530	Coral reefs or seagrass beds?	Corrected in the text
IPBES NFP - Australia	Ch.3	35	1530	35	1531	This is in the section related to the assessment of seagrasses therefore it is unclear if this statement is incorrectly located or should be related back to seagrasses to provide context.	rectified in the text
IPBES NFP - Australia	Ch.3	35	1538	35	1541	In the table on page 12 of the Summary they note that kelp forests have not been assessed, although on page 35 of Chapter 3 they do provide references from 2009 and 2011 and say that kelp forests are "expanding" northwards. This ignores the thorough assessment work by this Department and the Australian Threatened Species Scientific Committee in listing Giant Kelp Forests of South East Australia in 2012 - as published at http://www.environment.gov.au/cgi-bin/sprat/public/publicshowcommunity.pl?id=107 - which notably will "move" southwards in the southern hemisphere not northwards (basically). We would recommend alternative words such as "kelp forests will become increasingly concentrated further from the equator in any remaining suitable habitat"	Very important point. Suitable modification has been done under Section 3.2.3.4
Margarita N. Lavides	Ch.3	35	1545	36	1602	It is surprising that despite the well established importance of sharks, cetaceans and reef fishes both ecologically and economically especially for subsistence fishers, and nutritionally for coastal and general population, there is no mention of these taxa in the section Coral Reefs. For example in the Philippines, patterns of coral reef fish disappearances revealed as much as 88% decline in catch per unit effort since the 1950s for large reef fishes like bumphead parrotfish, humphead wrasse and giant grouper. Aside from being significant target fish, these fishes are ecologically important. For example, Bumphead parrotfish is very important dominant reef bioeroder keeping coral reefs healthy. While this study is at the country level, but the reef fish species covered are widely distributed within the Indo-Pacific region. The study can be accessed in : http://journals.plos.org/plosone/article?id=10.1371%2Fjournal.pone.0155752 Also, it is important to refer to and cite studies of Nicholas Dulvy for threatened sharks, and Yvonne Sadovy-De Mitcheson for threatened wrasse and groupers. For overall coral reef fishes and other reef taxa, the works of Kent Carpenter, Manager for IUCN Global Marine Species Assessment, and whose most important works are in APR, should be referred to and cited here also. Some of their works and other studies relevant to Coral Reefs section here, especially for coral reef fishes, can be traced back by referring to the linked journal article above. (Note: although there is a section on status and trends among various faunal groups, I suggest that the the comments and suggestions here be included in the Coral Reefs section to more effectively send the message across.	Thanks. This has been addressed in 3.2.3.5
Jyotirmoy Shankar Deb	Ch.3	35	1547	36	1602	Tourism activities inside the coral reef areas are destroying the ecosystems as well as the reefs. These should be incorporated in the causes...	Thank you. We have tried to find sources.
Elise Belle	Ch.3	35	1548	35	1548	"which has a very high proportion"	Corrected
Margarita N. Lavides	Ch.3	35	1558	35	1560	The coral bleaching events in Great Barrier Reef in 2016 and 2017 should be briefly mentioned here. These events have devastated 1,500 km stretch of the UNESCO World Heritage Site. Before 2016, there had only been two bleaching events along GBR in the past two decades, in 1998 and 2002. Reports and media press release and papers from ARC Centre of Excellence for Coral Reef Studies James Cook University can be used as references for this.	Addressed to some extent
Elise Belle	Ch.3	35	1561	35	1561	"expanding towards the poles"	Corrected in the text

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Shukla Acharjee	Ch.3	35	1561	35	1561	towards	Corrected in the text
Elise Belle	Ch.3	35	1568	35	1569	Reference?	Added in the text
Elise Belle	Ch.3	36	1573	36	1574	Reference?	Added in the text
Elise Belle	Ch.3	36	1578	36	1579	"for avian species [...] blue mussels"	Corrected in the text
Elise Belle	Ch.3	36	1583	36	1583	"in Korea with a high annual"	Corrected in the text
Elise Belle	Ch.3	36	1587	36	1588	Check/correct sentence.	Corrected in the text
Elise Belle	Ch.3	36	1602	36	1602	"food source, like for example in Sydney, Australia."	Corrected in the text
Joanne Perry NZ Focal point	Ch.3	36	1602	36	1602	you might want to include the example of the recent outbreak of <i>Bonamia ostreae</i> in NZ oyster farms and the cost of eradication as a recent example see http://www.mpi.govt.nz/protection-and-response/responding/alerts/bonamia-ostreae/	This has been revised.
André Mader	Ch.3	36	1604	37	1624	It is a bit confusing to include freshwater and brack under a marine section	Mention has been made aquaculture in general and hence the percentage of freshwater fish included at this section for information
Elise Belle	Ch.3	36	1606	37	1624	The spelling and grammar as well as the structure of many sentences in Section 3.2.3.6 needs to be entirely revised. I therefore do not provide any suggested corrections to this section.	Thank you, this has been done by authors to the extent possible.
André Mader	Ch.3	37	1626	37	1649	The use of terms like "marine area" and "marine region" is not consistent with each other and with the rest of the text.	Corrected in the text
Elise Belle	Ch.3	37	1626	37	1787	Section '3.2.4 Marine' would also greatly benefit from being proofread by a native English speaker, notably to correct all the spelling and grammar mistakes, so I again do not provide any suggested edits to this section.	Thank you, this has been done by authors to the extent possible.
André Mader	Ch.3	37	1628	37	1630	Depth contradicts the definition of 3.2.4.1.	Corrected
André Mader	Ch.3	37	1632	37	1649	What about benthos?	Already available in the text
André Mader	Ch.3	37	1632	37	1684	There is not much detail here - the section could be more comprehensive, like those under terrestrial systems	This has been revised.
Elise Belle	Ch.3	37	1670	37	1671	Reference?	Reference is already available
Elise Belle	Ch.3	38	1682	38	1682	In which way is the pattern different?	This has been revised.
André Mader	Ch.3	38	1686	39	1733	This section is lacking in detail.	Addressed to some extent
Yves Henocque	Ch.3	38	1696	38	1696	one important thing missing under 3.2.4.3: whales fall. The following text is proposed: "The falls of large whales yield massive pulses of labile organic matter to the deep-sea floor. Interest in whale fall ecology started with the discovery in 1989 of a chemoautotrophic assemblage on a whale skeleton in the northeast Pacific (Smith, 1992). It has been observed that whale falls share 11 species with hydrothermal vents and 20 species with cold seeps, and thus may provide dispersal stepping stones for a subset of the vent and seep faunas (Smith and Baco, 2003)". References: Smith C.R. 1992. Whale falls: chemosynthesis on the deep-sea floor. <i>Oceanus</i> 36, 74-78 -Smith C.R. & A.R. Baco, 2003. Ecology of whale falls at the deep-sea floor. <i>Oceanography and Marine Biology: an Annual Review</i> , 41, 311-354	Thanks. Needful done
Joanne Perry NZ Focal point	Ch.3	38	1697	38	1714	there seems to be text missing in this section and both paragraphs could do with an editorial tidy up.	The section dealt with shipwreck and sea mount separately

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Yves Henocque	Ch.3	38	1711	38	1712	The statement, "no specific research on seamount have been done in Asia Pacific region", is wrong. Instead, the following text is proposed: "Seamounts have become the focus of exploration for seabed minerals, particularly polymetallic sulphides in the Southwest Pacific (Scott, 2007) and cobalt-rich crusts in the central Pacific Ocean (Hein, 2002). Studies on seamounts off Australia and New Zealand have clearly demonstrated significant differences in the structural complexity of benthic habitats, species numbers and abundance, and the composition and structure of assemblages between fished and unfished seamounts (Koslow and al.,2001). References: -Scott S.D. 2007. The dawning of deep-sea mining of metallic sulfides: the geological perspective. <i>International Society of Offshore and Polar Engineers OMS-2007 Symposium Proceedings 6-11</i> . - Hein J. 2002. Cobalt-rich ferromanganese crusts: global distribution, composition, origin and research activities. <i>International Seabed Authority Tech. Study 2: 36-39</i> -Koslow J.A., Gowlett-Holmes K., Lowry J.K., O'Hara T., Poore G.C.B., et al. 2001. Seamount benthic macrofauna off southern Tasmania: community structure and impacts of trawling. <i>Mar Ecol Prog Ser</i> 213: 111-25	Included in the text
Yves Henocque	Ch.3	38	1722	38	1722	"...site for each curie", unclear meaning?	Corrected in the text
Joanne Perry NZ Focal point	Ch.3	38	1722	38	1733	what is being referred to by the term curie? Are you implying that the radioactive levels at each site have been assessed? It is not clear what you are referring to here. In fact this whole section needs tidying and editing.	rectified in the text
Yves Henocque	Ch.3	39	1724	39	1724	replace "...is rare in Asia Pacific region" by "is developing in Asia Pacific region". Proposed additional text: "Deep-sea vent communities in Manus Basin (Bismarck Sea, Papua New Guinea) have been characterized using macrofaunal data sets from a proposed reference site (South Su) and a proposed mine site (Solwara 1) to test the hypothesis that there was no difference in macrofaunal community structure between the sites (Collins et al., 2012). Reference: -Collins P.C., Kennedy R., Van Dover C.L. 2012. <i>Marine Ecology Progress Series Vol.452: 89-107</i>	Added in the text
André Mader	Ch.3	39	1735	40	1787	Why is this section here? It covers coastal <i>and</i> marine. Content should be under the relevant sections above. Half a page on one species (dugongs) seems excessive.	Addressed
IPBES NFP - Australia	Ch.3	39	1741	39	1750	The finding that large predators such as tuna have decreased around Australia and New Zealand (as opposed to, say, the broader south/central western Pacific), leading to an increase in small sharks and rays, is not supported by evidence.	Addressed
Joanne Perry NZ Focal point	Ch.3	39	1744	39	1747	again these sentences need tidying as it is not that clear what is intended here.	Addressed to a large extent
Thomas Brooks	Ch.3	39	1752	39	1773	Good section on Dugong dugon, and use of Marsh & Sobotzick (2016) http://www.iucnredlist.org/details/full/6909/0 - retain. Add scientific name.	Thank you, this has been incorporated.
IPBES NFP - Australia	Ch.3	39	1775	39	1777	'This could lead to trophic cascades and collapse...' needs to be referenced. As stated above – Australia's fisheries management practices should ensure that Australia does still have exploitable fish stocks in 2048. There may be fewer exploitable stocks in other regions.	Corrected
Elise Belle	Ch.3	40	1777	40	1777	Where? In the APR?	Yes, in the AP region.
André Mader	Ch.3	40	1789	44	1970	The section on bio-cultural diversity does not explain the links between ILK/IPLC/ILCs and biodiversity until the end (lines 1926-1970). Perhaps start with that and focuses on it, as it is the most relevant thing here.	The definition given for biocultural diversity in Section 3.2.5.1 covers the suggested links

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
André Mader	Ch.3	40	1789	44	1970	Why use the contentious term "bio-cultural diversity" if there are others available (ILK, IPLC, TLC, ILC etc.)? Perhaps a more longer, more descriptive title would help to deal with this.	It encompasses ILK, IPLC, TLC etc. Defined in Glossary
Elise Belle	Ch.3	40	1789	44	1970	Like above, Section '3.2.5 Biocultural Diversity' should be proofread by a native English speaker (notably many articles are missing, which I did not correct).	Thank you, this has been done by authors to the extent possible.
Elise Belle	Ch.3	40	1793	40	1794	"is defined here as [...] explicetely considering the idea"	Correction done
Elise Belle	Ch.3	40	1798	40	1798	"shows that it is mainly focused in"	Suggestion incorporated
Elise Belle	Ch.3	40	1809	40	1809	"contributing to improved management"	Correction done
Elise Belle	Ch.3	40	1821	40	1821	I would rather call this section '3.2.5.2 Linguistic and biological diversity' to keep the link with biodiversity	Biological diversity is treated in the preceeding sections
André Mader	Ch.3	41	175	41	1876	Note that the correct term is "indigenous AND local communities" (i.e. not only one entity)	Correction done
Shukla Acharjee	Ch.3	41	1826	41	1826	an index	Correction done
Elise Belle	Ch.3	41	1827	41	1832	I would delete 'The percentages of languages [...] in the Australian family' as this is too specific to languages with no relation to biodiversity.	Correction done
Elise Belle	Ch.3	41	1834	41	1843	For the same reason as mentioned above, I would also delete 'Within the APR, declines in [...] Walker-Painemilla, 2012)'.	We decided to keep this to show the declining trend
Elise Belle	Ch.3	41	1849	41	1849	I would simply call this section 'Bio-cultural Diversity'.	Yes. Done
Elise Belle	Ch.3	41	1852	41	1853	"Based on these adjustments, the top countries globally for"	Correction incorporated
Elise Belle	Ch.3	41	1864	41	1864	"to show the linguistic, cultural and trade boundaries"	Correction done
Thomas Brooks	Ch.3	41	1869	41	1871	Good use of biodiversity hotspots information - retain	Thank you.
Elise Belle	Ch.3	41	1873	41	1873	I would simply call this section 'Indigenous and Local Knowledge'.	Thanks, Done.
Yang Qingwen	Ch.3	41	1873	42	1896	ILK is part of TK. Here TK instead of ILK seems not reasonable. It should focus on TK including ILK in these paragraphs.	Addressed
Elise Belle	Ch.3	42	1880	42	1881	"assessments due to data deficienc, except for"	Correction done
Elise Belle	Ch.3	42	1883	42	1884	Delete 'for its estimation [...] local tongues'.	Correction done
IPBES NFP - Australia	Ch.3	42	1884	42	1888	Noting the reference is Wikipedia - is there any more appropriate references?	It links to the Indigenous Australian website
Elise Belle	Ch.3	42	1886	42	1886	Other reference than Wikipedia?	It links to the Indigenous Australian website
Elise Belle	Ch.3	42	1886	42	1888	"By the time of European [...] Australians had decreased to only 120, and only 13 of them"	Sentence rephrased
Elise Belle	Ch.3	42	1898	42	1898	I would simply call this section 'Value of Nature to the People'.	Suggestion incorporated
André Mader	Ch.3	42	1906	42	1907	A claim like this will probably need good references to back it up	Reference incorporated
NFP of China	Ch.3	42	1906	42	1915	the data is out of date, can not reflect the facts, recommend deleting	This has been revised.
Elise Belle	Ch.3	42	1907	42	1908	"resources and for production"	Correction done
Elise Belle	Ch.3	42	1913	42	1915	"unsustainable regarding its impact on vegetation loss and degradation". Delete the rest of the paraggraph: 'than that of sheep [...] Mongolia'.	This has been revised.
Elise Belle	Ch.3	42	1918	42	1918	"however, in less populated areas, it"	Correction done
Elise Belle	Ch.3	43	1928	43	1928	"cultural and scientific approaches"	This has been revised.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Elise Belle	Ch.3	43	1930	43	1934	Target 11 is not only about coverage! It is also about having an effective management system and well connected network. I would delete the sentence 'The Target 11 [...] marine areas' and replace it with the full text of the target. You could also add that: 'Protected area coverage in the APR is now 13.3% (4,641,956 km²) for terrestrial areas and inland waters and 15.7% (10,391,408 km²) for coastal and marine areas under national jurisdiction (UNEP-WCMC and IUCN, 2017)'. In terms of coverage in the APR, 19 countries have now surpassed the 17% target for terrestrial areas and 9 countries have surpassed the 11% target for marine and coastal areas. Add reference as: <i>UNEP-WCMC and IUCN (2017). Protected Planet. Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net.</i>	Thank you. Suggestion incorporated
Elise Belle	Ch.3	43	1938	43	1938	"types of Indigenous and Community Conserved Areas (ICCAs) are prevalent" You could also possibly mention the ICCA Registry, which contains data for the APR: http://www.iccregistry.org/ .	Correction done
Elise Belle	Ch.3	43	1939	43	1939	"the tradition of ICCAs"	Thank you, this has been incorporated.
India NFP	Ch.3	43	1945	43	1946	Sacred groves are found throughout India and not restricted to Uttarakhand State only	Comment incorporated
Shukla Acharjee	Ch.3	43	1952	43	1952	is also a matter	Correction done
Elise Belle	Ch.3	43	1952	43	1954	"This information, however, is largely unknown. In the APR, China, India and New Zealand have records"	Correction done
Elise Belle	Ch.3	43	1963	43	1963	"The Japanese terms for"	Correction done
Elise Belle	Ch.3	43	1966	43	1966	"in 2010 at the CBD COP10"	Correction done
Elise Belle	Ch.3	44	1969	44	1969	Box 3.2: "or entire landscapes, including sacred"; "animals in some cases, that are sometimes threatened or have disappeared from the surrounding landscape"; "are the only forests left"	Thank you, this has been incorporated.
NFP of China	Ch.3	44	1969	44	1970	Box 3. 2: change "Tibet" to "Xizang"	Done. Box 3.2 is now 3.2
Jyotirmoy Shankar Deb	Ch.3	44	1973	45	1988	Increased developmental and tourism activities inside the threatened or protected areas are the major threats to biodiversity and ecosystems. These must be included in this section.	Appropriate for Chapter 4
Elise Belle	Ch.3	44	1978	44	1978	"or by their remoteness"	Correction done
Prakash Nelliya	Ch.3	44	2007	45	2060	'Environmental Kuznets Curve' should be explained with the help of the figure.	Already explained in line 2009-2010
André Mader	Ch.3	45	1990	46	2052	Combine 3.4.1 and 3.4.2, because they concern the same driver?	Modified suitably
Elise Belle	Ch.3	45	1993	45	1994	"This loss has been most rapid [...] forest cover has been increasing"	Correction done
Elise Belle	Ch.3	45	1998	45	2001	"wood production remained the major driver of forest loss. This was due to an increase of investments in the agricultural sector that improved farm productivity. The increase in road density also had significant negative impacts"	Correction done
Elise Belle	Ch.3	45	2013	45	2013	Figure not referenced in the text.	Thank you. Incorporated in text
Elise Belle	Ch.3	45	2017	46	2019	"environmental pressure. Thus, forest transition [...] land use change continue under"	Correction done
Elise Belle	Ch.3	46	2020	46	2021	"palm oil in the global market, and tropical forests are likely to continue being converted to"	Correction done
Elise Belle	Ch.3	46	2031	46	2031	"forest management under"	Correction done
André Mader	Ch.3	46	2034	46	2052	This seems to belong in chapters 4 and 6.	Modified suitably

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Tatsuya Horikiri	Ch.3	46	2045	46	2048	It is not clear whether the word "rehabilitation projects" is meant for "species" or " areas." As we talk about land and habitat here, it seems to be accurate to add something like "of degraded land" after "rehabilitaiton projects."	In this context, it is area.The word 'area' will be added
CMS	Ch.3	46	2045	46	2052	There are several regional multinational instruments under CMS in place that would be worth mentioning in this regard (eg. CMS Dugong MoU, IOSEA Marine Turtle MoU...), as they provide already a legal and institutional framework for the development and implementation of relevant policies. We suggest to revise text as follows: "Conservation of long distance migratory species such as Siberian crane, Amur falcon, sea turtles, whales, dugongs and a number of water birds would require regional cooperation and enabling policies on part of all the countries in the region (Somveille, Manica, Butchart, & Rodrigues, 2013). Several applicable agreements established in the framework of the Convention on Migratory Species (CMS) are already in place, concerning e.g. the Siberian Crane, Birds of Prey, Waterbirds, Landbirds, Marine Tutles, Sharks, Saiga antelope, Dugongs, South Pacific cetaceans), while other could be developed as appropriate.	Thank you for the input.
Elise Belle	Ch.3	46	2048	46	2049	Delete 'Same goes for [...] of the APR.'	Deleted
Thomas Brooks	Ch.3	46	2049	46	2052	Good use of Somveille et al. (2013) - retain	Thank you.
Elise Belle	Ch.3	46	2051	46	2051	"enabling policies from all the countries"	Correction done
Binaya Raj Shivakoti	Ch.3	46	2054	46	2066	Too general and lacks value addition	Text given here is to give a general picture with examples like other subsections under 3.3
Elise Belle	Ch.3	46	2059	46	2059	"While water quality has improved"	Correction done
Elise Belle	Ch.3	46	2062	46	2063	"planned for construction and a model-based analysis has shown that it would cause significant loss"	Correction made
David Bickford	Ch.3	46	2069	46	2069	add findings from 39. Bickford, D., S.D. Howard, D.J.J. Ng, and J.A. Sheridan. 2010. Impacts of climate change on the amphibians and reptiles of Southeast Asia. Biodiversity and Conservation 19 (4): 1043-1062. to denote the impacts to reptiles and amphibians (on metabolic rate, populations trends, body size, etc.).	Thanks. Done.
Elise Belle	Ch.3	47	2078	47	2079	"Increased rates of [...] Asia, and the degradation of"	Correction made
Elise Belle	Ch.3	47	2084	47	2084	"evident in the case of certain"	Correction made
Shukla Acharjee	Ch.3	47	2085	47	2085	one of the species	Correction made
Elise Belle	Ch.3	47	2090	47	2090	"(especially those listed as threatened on the IUCN Red List)"	Correction made
Elise Belle	Ch.3	47	2106	47	2107	"particularly threatened by invasive species"	Correction made
Elise Belle	Ch.3	47	2110	47	2111	"ecosystem functions (in 56% of cases). These authors"	Corrections made
Elise Belle	Ch.3	47	2113	47	2114	"species have been suggested (McKenzie"	Corrections made

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Margarita N. Lavides	Ch.3	47	2119	47	2119	I suggest the following should be included after the Indian example in Line2119: The concern on invasive species in the Philippines has only been recently realized and addressed. A series of conference-workshops on IAS and their impacts on biodiversity were held in 2013 to identify major strategies and specific actions to address the problem and a National Invasive Species Strategic Action Plan (NISSAP) and its Implementing Guidelines was completed in 2013 (Philippine NBSAP 2015-2028)	This section has now been improved considerably
André Mader	Ch.3	48	2126	49	2160	This section seems to be more about management than governance. In either case, it might belong in chapter 6, or needs detailed cross-referecning to the relevant sections in that chapter.	This has been revised.
The Biodiversity Indicators Partnership (BIP)	Ch.3	48	2129	48	2131	Values used here are outdated and could be updated/replaced with the values up to 2012 that have been provided to IPBES for these reports.	We could not access the information
Elise Belle	Ch.3	48	2131	48	2131	First define what is biocapacity.	This would be addressed by Glossary Committee
The Biodiversity Indicators Partnership (BIP)	Ch.3	48	2131	48	2131	Please use "biocapacity" and not "bio-capacity"	Corrected
Elise Belle	Ch.3	48	2133	48	2136	"The Living Planet Index (LPI), an indicator of the state of global biological diversity used in the Living Planet Report ([ADD REFERENCE]), suggests a decline [...] (1970-2008). Given the current"	Addressed to some extent
Tatsuya Horikiri	Ch.3	48	2133	48	2136	It seems that LPI is more related to "trend of populations (in certain ecosystems)" rather than being an indicator of ecosystem healthiness itself. It might be clearer to state that "The report on Living Planet Index (LPI) shows a decline of 64% in key populations of terrestrial and freshwater species over a period of nearly 4 decades (1970-2008) in APR as against global fall of LPI by 28% during same period, suggesting serious degradation of these ecosystems in the region".	This has been revised.
The Biodiversity Indicators Partnership (BIP)	Ch.3	48	2133	48	2136	This statistic is out-of-date and the method for calculating the LPI has changed. I have recommended an update below and suggested rewording for a better description of the indicator, recognising that the biogeographic realm represented by the LPI is not quite the same as the APR: 'The Living Planet Index, an aggregated indicator of vertebrate population trends, suggests a decline of 67% of terrestrial and freshwater species within a similar geographic region to the APR over 4 decades (1970-2010), compared to a fall in the global LPI of 52% during the same period' (WWF/ZSL, 2014). An LPI for the APR has been produced but not yet published so there is a possibility that this can be made available for this chapter if needed	Replaced as suggested
Elise Belle	Ch.3	48	2138	48	2138	"pattern, and the transformation of forestry"	Corrected
Elise Belle	Ch.3	48	2140	48	2141	"biodiversity in the next century may be confined to protected areas or to places"	Corrected
Elise Belle	Ch.3	48	2143	48	2144	"unprecedented human population growth in Asia has [...] on the other hand, arable lands have been"	Corrected
Elise Belle	Ch.3	48	2147	48	2149	"forest area was due to reforestation policy and programs, such as the Grain for Green project. The natural"	Corrected
Elise Belle	Ch.3	48	2156	48	2156	"Effective natural resource"	Corrected

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
NFP of China	Ch.3	49	2159	49	2159	change "Peoples' Republic of China" to "China"	Suggestion incorporated
Elise Belle	Ch.3	49	2159	49	2160	Box 3.3: "aims at conserving biodiversity"; "in no take zones and"; "conservation and development programmes in the Hindu"; "have been identified across the HKH region"; "science based evidence to policy".	Corrected Box 3.3 is now Box 3.4
David Bickford	Ch.3	49	2161	51	2251	add another key message on the status and trends in extinction risks	This has been revised.
Thomas Brooks	Ch.3	49	2161	51	2251	Recommend adding a key message on extinction risk across the Asia-Pacific region, and on the _rate_ at which species in the region (and its subregions) are sliding towards extinction, which is documented by the Red List Index. This indicator has a strong scientific basis (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0000140), as well as policy alignment given that it is used to track progress towards SDGs Target 15.5 and Aichi Target 11 (https://www.bipindicators.net/indicators/red-list-index). It is an IPBES "core" indicator (http://www.ipbes.net/sites/default/files/downloads/pdf/ipbes-5-inf-5.pdf , p10) and included in Chapter 1, Table S4 (Page 74, Line 2611). Data for this indicator, disaggregated to the Asia-Pacific region and its subregions, were published in https://www.nature.com/articles/sdata20167 . The Americas regional assessment SOD Chapter 3 (Pages 43-46, Lines 1074-1122 + Figures 3.21, 3.22, and 3.23) and the Europe & Central Asia regional assessment SOD Chapter 3 (Pages 5-6, Lines 177-187; Pages 108-109, Lines 3060-3079 + Figure 3.45; & Pages 140-143; Lines 4012-4098 + Figure 3.54) could be used to provide helpful templates for development of text and figures to underpin such a key message.	Addressed
Thomas Brooks	Ch.3	49	2161	51	2251	Recommend adding a key message on protected area coverage of key biodiversity areas, given the crucial importance of protected areas in safeguarding the biodiversity of important sites (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0032529), as well as policy alignment given that this indicator is used to track progress towards SDG Targets 14.5.1, 15.1.2, 15.4.1 and Aichi Target 11 (https://www.bipindicators.net/indicators/protected-area-coverage-of-key-biodiversity-areas). It is an IPBES "core" indicator (http://www.ipbes.net/sites/default/files/downloads/pdf/ipbes-5-inf-5.pdf , p10) and included in Chapter 1, Table S4 (Page 73, Line 2611). Data for this indicator, disaggregated to the Asia-Pacific region and its subregions, were published in https://www.nature.com/articles/sdata20167 . The Europe & Central Asia IPBES regional assessment SOD Chapter 3 (Page 5, Lines 170-176; Pages 105-108, Lines 3015-3059 + Figures 3.42, 3.43, 3.44) could be used to provide a helpful template for development of the text and figures to underpin such a key message.	We added Figure 3.5: Growth in the proportion of KBAs completely covered by protected areas in the Asia Pacific region, Figure 3.6: Growth in proportion of IBAs completely covered by PAs in the Asia Pacific subregions, and corresponding descriptions in 3.2.6.1.
André Mader	Ch.3	49	2162	51	2251	It is confusing to have key findings here, when they are expected in the executive summary. Also be careful about words like "recommendations" and "should", which may sound policy-prescriptive.	Agreed in First Authors Meeting to be included as a conclusion for the chapter. As per recommendations, we are still awaiting the outcome of cross-chapter discussion
André Mader	Ch.3	49	2162	51	2251	Everything in this section seems like it could be either in the executive summary or elsewhere in this chapter or other chapters. The section seems unnecessary as a separate section.	Agreed in First Authors Meeting to be included as a conclusion for the chapter
Elise Belle	Ch.3	49	2163	49	2163	"currently under threat"	Corrected

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Stuart Butchart	Ch.3	49	2164	49	2164	Add text about here on the extinction risk of species in the region and how this is changing over time, as shown by the Red List Index. See Butchart et al 2007 http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0000140 , Brooks et al 2016 https://www.nature.com/articles/sdata20167 .	This has been revised.
Tatsuya Horikiri	Ch.3	49	2166	49	2168	"mainstreaming biodiversity conservation and utilisation" could be replaced by "mainstreaming biodiversity conservation and its sustainable utilization/use". For sustainable development, utilization or use of biodiversity must also be sustainable.	Suggestion incorporated
Tatsuya Horikiri	Ch.3	49	2173	49	2177	Does this part mean that many species are highly threatened due to increasing anthropogenic pressures and conflicts and accordingly confined to isolated PAs, or that they are threatened and confined to PAs but these PAs themselves are under increasing pressures and conflicts?	It says many species are threatened and confined to PAs which are also under increasing pressures and conflicts
Stuart Butchart	Ch.3	49	2175	49	2175	Add text on how protected area coverage of key biodiversity areas is increasing but remains insufficient. See Butchart et al 2012 http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0032529 and Butchart et al 2015 http://onlinelibrary.wiley.com/doi/10.1111/conl.12158/abstract , plus Brooks et al 2016 with the relevant regional data https://www.nature.com/articles/sdata20167 .	This has been revised.
Elise Belle	Ch.3	49	2175	50	2176	"Currently, 13.3% of the terrestrial areas and inland waters, and 15.7% of coastal and marine areas under national jurisdiction are protected in the APR (UNEP-WCMC and IUCN, 2017)." Add reference: UNEP-WCMC and IUCN (2017). Protected Planet. Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net.	Text replaced
Elise Belle	Ch.3	50	2177	50	2178	"Except for a few countries [...] forest cover. However, this is largely attribute to [...] tree crops, which does not"	Corrected
Elise Belle	Ch.3	50	2182	50	2183	"however, still many challenges such as population"	Corrected
Elise Belle	Ch.3	50	2188	50	2188	"and need to be restored for providing"	Corrected
Elise Belle	Ch.3	50	2190	50	2190	"highest rate of mineral"	Corrected
Elise Belle	Ch.3	50	2203	50	2205	First sentence is a repetition and could be deleted.	Thank you, we have revised this.
Elise Belle	Ch.3	50	2207	50	2207	"in the APR are undergoing"	Corrected
Joanne Perry NZ Focal point	Ch.3	50	2219	50	2234	there appears to be some repeated text in these two paragraphs. It is not clear if this is intended or not. Please recheck and remove double ups if necessary.	Thank you, this has been checked.
Elise Belle	Ch.3	50	2225	50	2225	"at all levels of society and"	Corrected
Elise Belle	Ch.3	50	2226	50	2226	"conservation are important"	Corrected
Margarita N. Lavides	Ch.3	51	2227	51	2240	Lines 2227-2230 and Lines 2237-2240 --> These are exactly the same sentences in two different paragraphs. Redundant.	Thank you. Redundancy removed
Elise Belle	Ch.3	51	2229	51	2229	"reviews and systems of disincentives"	Corrected
Elise Belle	Ch.3	51	2234	51	2234	"Despite the increasing anthropogenic pressures [...] populations", and move sentence at the end of the paragraph above.	Corrected
Elise Belle	Ch.3	51	2235	51	2240	Delete 'Creating continuous awareness [...] practices of conservation', which is a repetition from above.	Deleted
Elise Belle	Ch.3	51	2242	51	2242	"biodiversity, in the appropriate"	Corrected
Elise Belle	Ch.3	51	2246	51	2248	Delete 'Decline of linguistic [...] regional languages'.	Corrected

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
The Biodiversity Indicators Partnership (BIP)	Ch.3	68	3058	68	3058	Target 11: Protected Area management effectiveness. There is a lack of data to be definitive on this issue, it is either stable or inadequate data	Addressed