

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	We have endeavoured to avoid general statements and duplication in the last iteration.
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.	We have tried to identify data gaps but could not be exhaustive.
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. We have incorporated the useful materials provided by the task force and task group on indicators across various chapters.
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.	Thank you for this important feedback. We have considerably revised the SPM based on the inputs received and the guidance of the MEP and Bureau.
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.	We have aimed to improve on the case studies 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> <ul style="list-style-type: none"> 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. 	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> <ul style="list-style-type: none"> 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. 	References have been updated. Cross referencing has been included in updated version.
Pham Ngoc Bao	General	0	0	0	0	<p>0 -Many repetitions and inconsistencies (words) are found in the report. Significant re-structuring (within and across the chapters) and editing are necessary.</p>	Editing has been completed by a native english speaker within the author team
Ramsar Convention Secretariat	General	0	0	0	0	<p>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/</p>	A mention on Ramsar site number and areas has been added in 4.4.7.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	<p>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)</p>	This has been added to chapter 3.
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	<p>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)</p>	A mention on undernourishment has been added in section 4.2.2.2
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	<p>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).</p>	This index works only in some parts of the region
The Biodiversity Indicators Partnership (BIP)	General	0	0	0	0	<p>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)</p>	The Dixon et al (2016) reference to the wetland extent trend index areas has been added in section 4.4.7.1

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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)	We could not find an appropriate place to incorporate this in the flow of the chapter.
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)	The Dixon et al (2016) reference to RAMSAR areas has been added in section 4.4.7.1
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)	The data was not available 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 '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)	The data was not available 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 '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)	The data was not available 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 '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)	Chapter 3 has addressed this.

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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')	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 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)	More specific information for target 9 have been added in the discussion and we have liaised with Dr Pagad. One of our LA is a specialist in IAS and has included more APR specific information.
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.
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.

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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 for this suggestion. We've been in contact with Dr Pagad and have included information on adoption of national legislations for IAS control
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)	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 '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)	This has been added to chapter 3.
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)	The WQIB is interesting but we found it quite old (2008). We included information on water quality in Asia-Pacific from more recent publications (ADB 2016)
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.
IPBES Secretariat/TSU	Ch.4	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.	In Chapter 4 subregional similarities and differences of driver influence have been assessed.
Joanne Perry NZ Focal point	Ch.4	0	0	0	0	general comment on this chapter - parts of this chapter are well articulated, others are not, so there needs to be some serious work and editing done on those areas that are lacking. Ideally it should include a greater number of regional cases studies particularly those that identify ways and means for managing the various drivers of change. it is also very important to consider smaller developing countries, particularly those island nations that have a set of drivers particular to their circumstance.	More case studies and statements have been added to fill these gaps, but it is difficult to cover individual countries since this is a regional assessment.

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Kwan-Sung Song (NFP Korea)	Ch.4	0	0	0	0	There is a lack of cases relevant to the implications of biodiversity and ecosystem services from direct and indirect drivers of change. And these cases are lopsided to certain countries (e.g., China, Japan, Australia and New Zealand).	We have tried to include as many examples as possible but acknowledge that there are still gaps for some subregions.
Richard Corlett	Ch.4	0	0	0	0	Parts of this are excellent but there are several general problems: 1. It never refers to the previous chapters and provides its own accounts of 'status and trends' rather than citing the ones in Chapter 3. In a few cases these are better than those in Chapter 3 but in most cases they are worse. In both cases, there is massive overlap with Chapter 3 which needs to be resolved. 2. Although some sections are completely up to date, many sections are at least 5-10 years out of date and totally ignore recent literature in the field. These look as if they are based on previous reviews, without updating, rather than new review work. The IPBES report serves no purpose if it simply recycles older reports, as much of this does. 3. The information on climate change impacts is poor almost throughout. The 'Asia' chapter in the IPCC WG2 2014 report is ignored in favour of older sources now known in many cases to be wrong. The material in IPCC 2014 needs to be brought up to date, not replaced by even older sources. 4. The English is very uneven and in some places very difficult to follow. I have not attempted to correct this but it results in a lot of unnecessary ambiguity.	Cross referencing between chapters has been added. Duplication with chapter 3 has been rewritten. The section Climate Change has been improved based on updated references. Language has been improved, but editing is still needed.
Richard Corlett	Ch.4	0	0	0	0	Some excellent bits but far too much recycling of old reports. Readers will want to know the current drivers, not what was important - or thought to be important - a decade or more ago.	We've endeavoured to include more up-to-date references.
Tatsuya Horikiri	Ch.4	0	0	0	0	The way the assessment refers to "Aichi Targets" should better have consistency throughout the assessment.	Different chapter aims at different Aichi Targets.
Pham Ngoc Bao	Ch.4	2	46	2	46	Again, "fresh water" or "freshwater": should be consistent across the report. "freshwater" should be an appropriate word	Thank you, 'freshwater' was adopted.
Margarita N. Lavides	Ch.4	3	74	3	74	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.	Thank you for the suggestion. We have followed the formatting and practice of past and ongoing IPBES assessments.

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Shuli Niu	Ch.4	3	82	3	82	"demands on "-->"demands for"	This has been modified
Richard Corlett	Ch.4	3	87	3	88	It would be worth mentioning here and in the main text the increasing amount of meat in the diet in many areas, wasting land and animal feed.	Thank you. The sentence has been modified as: Rapidly economic growth in AP region is also changing the amount and patterns of traditional consumption, such as westernization of diets and increasing demand for animal protein, which is reducing the dependence on traditional foods, and leading to a significant change of agricultural production landscape in Northeast, South and Southeast Asia (established but incomplete; 4.2.2; 4.2.3; 4.4.5).
Richard Corlett	Ch.4	4	144	4	144	What is 'sustainable mining'? Mining removes non-renewable resources so, by definition, is not sustainable.	'Mining' has been adopted in the updated version.
Richard Corlett	Ch.4	4	149	4	149	The text this refers to does not suggest mangroves are 'greatly threatened'. Indeed, the rate of loss is much lower than other forest types.	This sentence has been deleted.
Margarita N. Lavides	Ch.4	5	158	5	168	The direct impact of chemical pollution to human health especially from mining should be briefly mentioned here. There are many examples of these in SEA especially in the Philippines, e.g. Marcopper case. Mining is the worst thing that ever happened to ecosystems, biodiversity and poor communities particularly on displacement and human health.	Only general statement has been kept in the executive summary. Detailed case cannot be included, however human health issues were mentioned.
Richard Corlett	Ch.4	5	170	5	170	There is no robust evidence for a link between climate change and biological invasions and none is presented in this chapter, so these topics should not be combined. Both are important enough to have their own summaries.	This paragraph has been rewritten.
Shuli Niu	Ch.4	5	193	5	193	"markedly"-->"remarkably"	This has been modified
Henry Scheyvens	Ch.4	6	226	6	226	Not just lack of enforcement by local authorities but also by government line agencies, e.g. lack of enforcement by Dept. of Environment and Forestry Authority is one reason for weak compliance with the forestry Code of Practice in logging concessions in Papua New Guinea. Reference: Scheyvens, H., & Lopez-Casero, F. (2013). Managing forests as a renewable asset for present and future generations: Verifying legal compliance in forestry in Papua New Guinea. Hayama: IGES. https://pub.iges.or.jp/pub/managing-forests-renewable-asset-present-and	Thanks. The sentence has been modified and the reference added.
Kwan-Sung Song (NFP Korea)	Ch.4	6	249	31	1419	The number of cases is still not enough and limited to a few countries (e.g., China, India, Australia, New Zealand, etc.). Therefore, there should be more cases of direct and indirect drivers of change in biodiversity and ecosystem services from other countries.	We agree with this very useful comment and will include additional case-studies from other countries in the region.
Prakash Nelliya	Ch.4	6	251	6	347	The peri-urban environmental issues in the context of weak governance, especially in the experience of urbanization trend in South Asian need to be highlighted in this head.	This issue has been highlighted in 4.4.6.1 Habitat modification in Urban ecosystems
Henry Scheyvens	Ch.4	7	259	7	259	Soil erosion is often associated with inappropriate agricultural practices, deforestation, etc. so not sure why this is given as an example of a natural cause.	This sentence has been re-written
Shuli Niu	Ch.4	7	266	7	266	"AP region"-->"APR", should be consistent with other chapters	We agree with this comment and are consistently using "AP region" in the report
Richard Corlett	Ch.4	7	266	7	287	This repeats material covered in Chapter 3 but using much older sources.	This paragraph has been shortened.

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Henry Scheyvens	Ch.4	7	267	7	271	You write "The scale of deforestation, for example, has dramatically expanded in the last few decades" but the figures you then given show the opposite.	This has been modified as suggested.
Richard Corlett	Ch.4	7	269	7	269	FAO 2010 has been superseded by FAO 2015. This or Chapter 3 should be used.	The reference has been updated and a reference to chapter 3 added.
India NFP	Ch.4	7	279	7	280	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. This observation, which is incorrect may therefore be deleted.	As suggested we added additional literature
Thomas Brooks	Ch.4	8	256	8	360	Good use of Maxwell et al. (2016) - retain. This needs adding to the Literature Cited (Page 84, between Lines 3849 & 3850).	As suggested we added additional literature
NFP of China	Ch.4	8	326	8	326	The data is out of date, can not reflect the facts,	References were updated and the case of the Sanjiang plains was rewritten
Tian Yu	Ch.4	8	329	8	338	Old data, and the situation in China has changed large, suggest consider the paper published by Ouyang in 2016	References were updated and the case of the Sanjiang plains was rewritten
Margarita N. Lavides	Ch.4	8	333	8	334	An example of national policy options in China that shrunk wetlands area between 1954 to 2005.	Description on this case has been changed: In past few decades, the Sanjiang Plain located in Northeast China has experienced a transformation from natural wetlands into croplands (Wang, Song & Liu et al., 2009; Mao, Wang & Luo et al., 2016). However, a significant increase of human-made wetland area was also observed in the Songnen Plain of Northeast China, with an increase of 1141.9 km ² in last two decades (Mao, Wang & Luo et al., 2016).
Ivxianguo	Ch.4	8	336	8	336	文献Mao, Wang, 2016在参考文献列表中没有引用。	Reference was added
Richard Corlett	Ch.4	8	353	8	356	Update the UNEP sources.	Updated
Yang Qingwen	Ch.4	9	362	9	376	This paragraph described the same issue as 4.1.1. Therefore, it is suggested to combine this paragraph into 4.1.1.	The paragraph in 4.1.1 has been shortened and references to this section have been added
Richard Corlett	Ch.4	9	362	9	380	This repeats Chapter 3. It is clearly 'status and trends' not drivers.	Over-exploitation is being described from different perspectives, with linkages between the two chapters. This chapter emphasise the increase in forest good demand
Henry Scheyvens	Ch.4	9	364	9	377	FAO definition of forests, which countries use for their reporting and thus which is reflected in the FAO FRA reports, include some types of planted forest. Therefore, the aggregate figures you quote mask the true rate in decline of primary forest. I suggest you provide disaggregated data that shows both the changes in primary and planted forest areas to give a fuller picture of what is happening in the region.	Thank you. We have tried to include data on Primary and Secondary Forests, though such datasets were not available

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Margarita N. Lavidés	Ch.4	9	368	9	369	There are conflicting statements whether the forest in Southeast Asia is declining or increasing so far in the previous three Chapters and this sentence. This should be reconciled.	Several literature like Stibig et al., (2007); Shearman et al., (2008); Braimoh et al., (2010); Miettinen et al., (2011); Subramanian et al. (2011); WWF Greater Mekong (2013); Sodhi et al., (2012); FAO (2015); Forest Watch Indonesia 2015, Butler 2015); Heino et al. (2015); RECOFTC (2016); Hughes (2017) are supporting the fact that forest area in Southeast Asia has declined. Forest area declined in Central and South America, in South and SE Asia and all three regions in Africa. However, forests expanded in Europe, North America, the Caribbean, East Asia and Western-Central Asia between 2010 and 2015 (Keenan 2015). Forest area declined in Central and South America, in South and SE Asia and all three regions in Africa. However, forests expanded in Europe, North America, the Caribbean, East Asia and Western-Central Asia. Brazil, Indonesia and Nigeria had the largest net forest loss between 2010 and 2015 (Keenan 2015). From 2010 to 2015, tropical forest area declined by 5.5 million ha per year while temperate forest area expanded at a rate of 2.2 million ha per year. Boreal and subtropical forest areas showed little net change (Keenan 2015). Southeast Asia (SE Asia) is a known global hotspot of biodiversity and endemism, yet the region is also one of the most biotically threatened (Hughes 2017). South East Asia has some of the highest deforestation rates in the world, with approximately 14.5% of regional forest cover in the last 15years and an average rate of 1% loss
IPBES Knowledge and Data Task Force (KD TF)/ Task Group on Indicators (TGI)	Ch.4	9	378	9	379	Table 4. 1: The table of Trends in forest extent (tree cover) can be replaced to the graph which TGI will provide soon	Thank you for the helpful suggestion.
Richard Corlett	Ch.4	9	387	9	387	It is not true that NTFPs are more important than timber in developing countries. Timber is an essential raw material for local and national use, particularly in developing countries, and for export. Timber harvesting and downstream processing employ millions of people in SE Asia and elsewhere in the AP region.	Thank you, we agree with your comment and have incorporated your suggestion in the text.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Richard Corlett	Ch.4	10	394	10	394	You can't use 14-year old study to represent the current situation.	Agreed and changes made in the text - the old study replaced with a new study - (Pandey et al., 2016); Verma et al., 2016; NTFP Strategic Direction report (2016-2019).
Richard Corlett	Ch.4	10	415	10	415	This is too broad a statement. It is not a major problem in SE Asia or on many Pacific Islands, or in forests.	Thank you, we agree and have corrected the statement.
Margarita N. Lavides	Ch.4	10	432	10	434	There should be more elaboration on the declining status of capture marine fisheries due to overfishing (to also give justice to its title Overfishing). There are a lot References that can be used for this including those articles in the journals Fish and Fisheries, Fisheries Research etc. Sample recommended References: 1) Stobutzki IC, Silvestre GT, Talib AA, Krongprom A, Supongpan M, Khemakorn P, et al. Decline of demersal coastal fisheries resources in three developing Asian countries. Fish Res. 2006; 78: 130–142. 2) Ainsworth CH, Pitcher TJ and Rotinsulu C. Evidence of fishery depletions and shifting cognitive baselines in Eastern Indonesia. Biol Conserv. 2008; 141: 848–859. 3) Sadovy De Mitcheson YS, Craig MT, Bertonecini AT, Carpenter KC, Cheung WL, Choat JH, et al. Fishing groupers towards extinction: global assessment of threats and extinction risks in a billion dollar fishery. Fish and Fisheries. 2013; 14: 119–136. 4) Lavides et al 2016 http://journals.plos.org/plosone/article?id=10.1371%2Fjournal.pone.0155752	Some of the suggested references will be added and in addition to these the literature and references have elaborated and updated.
India NFP	Ch.4	10	441	10	442	This statement does not appear to be based on facts. Indonesia appears in the context of countries having growth rate of 3% as well as 9-24%. No reference is given either. Given this, the statement may be deleted.need updated reference, facts and figures.	This has been modified as suggested.
Yang Qingwen	Ch.4	11	384	12	505	The title "unsustainable mining" is not correct,because "mining" itself is not sustainable. This two paragraph should be divided into two parts (land use and pollution) and combine them into 4.1.1 and 4.1.3	This section was rewritten with more focus, but it is not necessary to combine them.
Tatsuya Horikiri	Ch.4	11	477	11	482	I do admit the contribution of dams as presented in this chapter, but one could possibly feel inconsistency in the stance on hydropower dams between this chapter and the chapter 3 ("damming of rivers in some of the river basins will have significant negative impacts on fish production and environmental flows (well established)").	We made an effort to incorporate your comment in the text.
Richard Corlett	Ch.4	11	484	11	484	Mining, by definition, is not sustainable, since it removes non-renewable resources. I suggest you just call this Mining.	Agreed and changes made in the text as per your suggestion.
Margarita N. Lavides	Ch.4	11	484	12	505	Is there such as thing as sustainable mining? I disagree with the title Unsustainable mining because mining to me are all unsustainable. Also, This paragraph does not capture the other important effects of mining such as its negative impacts on human health and on indigenous culture and livelihood and the overall community displacement that mining brings. We will not be able to bring the message across to target audience if we speak only of its impacts on biodiversity per se, but if we truly believe that on the spirit of socio ecological system. Then we should speak transectorally and transdisciplinary.	Agreed and changes made in the text as per your suggestion.
Richard Corlett	Ch.4	13	540	13	558	The same statement is made in lines 540 and 558.	The sentence on line 558 has been removed

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
NFP of China	Ch.4	13	544	13	544	According to China's 2011 Annual Environmental Statistics, the data is not correct, and there is no reference to support the data	This sentence was modified as: Applying NO ₂ observations from multiple satellite instruments to constrain the global deposition of reactive nitrogen oxides (NO _y), Geddes and Martin (2017) found that over 1996 to 2014, NO _y deposition has increased substantially in some parts of Northeast Asia and increased apparently in the north-western Pacific Ocean.
Government of Japan	Ch.4	13	552	13	554	This sentence is requoted and unit in this sentence is different, so please correct as follows: "Even in Japan the wet deposition of nitrogen was 1.5 times larger than in Europe and 2 times larger than in the United States on the median (7.86 kg N/ha/year in Japan, 5.19 kg N/ha/year in Europe, and 3.61 kg N/ha/year in USA) (Matsubara et al. 2009)."	The sentence has been corrected
Government of Japan	Ch.4	14	595	14	598	Sato et al. 2013 is not listed in the Reference of this chapter and should be listed so that the data in this sentence can be checked.	Reference was added
Tian Yu	Ch.4	14	613	14	616	The data is out of date, can not reflect the facts,	This sentence has been removed
Richard Corlett	Ch.4	15	612	15	612	Increased nitrogen levels in what?	"... in rivers" has been added
Shuli Niu	Ch.4	15	612	15	612	"increase the nitrogen level" in what? Surface runoff? Lake? Or waterbody in general	"... in rivers" has been added
Richard Corlett	Ch.4	15	615	15	615	This source is too old. What is the current situation?	This sentence has been removed. The paragraph above reflects current situation for nitrogen exports. References were also updated.
Shuli Niu	Ch.4	15	627	15	632	Both of the examples support the effect of water pollution on water security. But there is not illustration on the effect of water pollution on biodiversity	This sentence was moved to 4.4.7 where there is some examples of water pollution effects on biodiversity
Government of Japan	Ch.4	15	631	15	632	Nakata et al. 2012 is not listed in the Reference of this chapter and should be listed so that data in the sentence can be checked.	The reference has been added
Jiang Zhigang	Ch.4	15	645	18	779	Generally, the chapter is well written. I just want to add two new references about the invasive species in the arid and semi- arid heartland of Eurasia continent.	Many thanks for this positive comment. The suggestion is also highly welcome, although I unfortunately did not see which references in particular you are referring to here? This information might also fall into the RA Europe and Central Asia, depending on where the respective area is located.
Herve Jourdan (IRD) & Roseli Pellens(MNHN)	Ch.4	15	653	15	653	Add (Jourdan 1997; Jourdan et al. 2002; Lach & Thomas, 2008; Ward, 2007; Foucaud et al. 2010)	We try to use the most recent literature in assessing the recent threats, and in this context have decided to include the Foucaud et al. (2010) reference, although its focus is more global, with the AP region only being a small sector of the spread analysed here - many thanks for this additional suggestion.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Hanno Seebens	Ch.4	15	665	17	709	<p>I agree that many knowledge gaps still exist, but there are a couple of global studies, which could be used to describe the past, current and future situation of alien species in more detail:</p> <ol style="list-style-type: none"> 1. Paini, Dean R, Andy W Sheppard, David C Cook, Paul J De Barro, Susan P Worner, and Matthew B Thomas, 'Global Threat to Agriculture from Invasive Species', Proceedings of the National Academy of Sciences, 113 (2016), 7575–79 <https://doi.org/10.1073/pnas.1602205113> 2. Early, Regan, Bethany A. Bradley, Jeffrey S. Dukes, Joshua J. Lawler, Julian D. Olden, Dana M. Blumenthal, and others, 'Global Threats from Invasive Alien Species in the Twenty-First Century and National Response Capacities', Nature Communications, 7 (2016), 12485 <https://doi.org/10.1038/ncomms12485> 3. Dawson, Wayne, Dietmar Moser, Mark van Kleunen, Holger Kreft, Jan Pergl, Petr Pyšek, and others, 'Global Hotspots and Correlates of Alien Species Richness across Taxonomic Groups', Nature Ecology & Evolution, 1 (2017), 1–7 <https://doi.org/10.1038/s41559-017-0186> 4. Seebens, Hanno, Tim M Blackburn, Ellie E. Dyer, Piero Genovesi, Philip E Hulme, Jonathan M Jeschke, and others, 'No Saturation in the Accumulation of Alien Species Worldwide', Nature Communications, 8 (2017), 14435 <https://doi.org/10.1038/ncomms14435> 	<p>Many thanks for these recommendations. The start of this section has now been altered to "A recent global assessment of invasive species distributions indicate a number of general invasion hotspots for the investigated taxa in the region, particularly on its islands and in parts of Australia (Dawson et al. 2017). Looking at the regional context, Across continental Asia, the IAS knowledge base is extremely variable across continental Asia, primarily ..." The other references nonetheless were not included here, as 1 and 2 do not really represent the current knowledge, but show potential future threats due to the potential spread of IAS, but 1. has now been included above. 4. has a very strong global outlook, with more limited information specifically in the region. These references will provide an excellent basis for both the global assessment and, if it happens, also the TA IAS, and they should definitely be suggested again in this context (if they have not already been included).</p>
Herve Jourdan (IRD) & Roseli Pellens(MNHN)	Ch.4	16	655	15	655	Add (e.g. Beauvais et al. 2006; Choi, Martin, & Lee, 2012; Lee & Lin, 2013; Sekar, 2012b; Paini et al. 2016)	<p>There is a huge amount of information on this, and we hence need to consider primarily the most recent literature. In this context, the Paini et al. reference is clearly very helpful, outlining the potential damage.</p>
Shuli Niu	Ch.4	16	655	16	655	what is the "pattern"?	<p>The "pattern" refers to the statement "we currently have a substantially better understanding of the status and implications of vertebrate and plant IAS in the AP region in comparison with invertebrates and microbes."</p>
IPBES NFP - Australia	Ch.4	16	657	16	663	<p>We think 'biosecurity' is intended here not biocontrol - would be technically incorrect if biocontrol is mentioned here. Prior to assessing IAS and their impacts on the AP Region, it should be noted that this region is a major source of species becoming invasive elsewhere (Hui, Richardson, Visser, & Wilson, 2014; Wilson et al., 2011; Rejmanek 2014). With Asia's key role in the global economy and the well established close links between the spread of invasive species and economic trade-routes (Axmacher & Sang, 2013; Gotzek, Axen, & Suarez et al., 2015), governments in this region have a key global responsibility to prevent the spread of potential invasive species via strict biosecurity bio-control measures for both imported and exported goods and products from this region.</p>	<p>Many thanks for this comment. The section will be adjusted accordingly.</p>
Shuli Niu	Ch.4	16	663	16	663	imported goods FROM this region? Or imported goods to this region?	<p>In this initial context, "from" is correct</p>

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Joanne Perry NZ Focal point	Ch.4	16	680	16	680	there seems to be some missing text as the sentence doesn't appear to have a conclusion.	The section has now been rephrased as "Overall, a good knowledge base exists both for plant (http://www.landcareresearch.co.nz/resources/identification/plants/weeds-key) and vertebrate IAS, . while research is to a degree focused on a smaller selection of species (Jolly, Shine, & Greenlees, 2015; Shine, 2014). Recent research in Australia and New Zealand has nonetheless strongly focused on only a smaller selection of these species (see e.g. Jolly, Shine, & Greenlees, 2015; Shine, 2014)."
Shuli Niu	Ch.4	16	681	16	681	show data base for vertebrate IAS as you did for plant IAS	There is no equivalent database to our knowledge, but most of the most important vertebrate IAS are also mentioned in the text already
Joanne Perry NZ Focal point	Ch.4	16	682	16	682	when you talk about "a degree of focus on a smaller selection of species" is that mammalian species of the full range of species? Please clarify	This has now been changed to "Overall, a good knowledge base exists both for plant (http://www.landcareresearch.co.nz/resources/identification/plants/weeds-key) and vertebrate IAS, . while research is to a degree focused on a smaller selection of species (Jolly, Shine, & Greenlees, 2015; Shine, 2014). Recent research in Australia and New Zealand has nonetheless strongly focused on only a smaller selection of these species (see e.g. Jolly, Shine, & Greenlees, 2015; Shine, 2014)."
Joanne Perry NZ Focal point	Ch.4	16	685	16	695	This section is to be commended for its representation of issues in the Pacific - well done. Further examples like this would be useful in other sections of this chapter.	Many thanks for this positive comment.
Herve Jourdan (IRD) & Roseli Pellens(MNHN)	Ch.4	16	686	16	686	Add after by invasive species. "This region accounts among the major Biodiversity hotspots, with high level of invasive pressure. For example, in New Caledonia, the smallest hotspot at world scale, there are 2231 established alien species (42 vertebrates, 541 invertebrates and 1648 plants) were recorded and reported in 2006 (Beauvais et al. 2006). But, this number strongly increased in a recent inventory that indicates the presence of 2008 plants IAS (Hequet et al 2009). In some small territories, the situations can be worse as exemplified by Wallis and Futuna territory (less than 150 Km ²), where the vertebrate fauna is now represented by nearly only invasives (Theuerkauf et al. 2010) with also higher prevalence of diseases like leptospirosis (Theuerkauf et al. 2015).	Given that space is extremely limited in this section and only newest literature is generally considered, the following will be included "The overall contributions of invasive species to the resulting island floras and faunas can be very significant (Hequet et al. 2009, Theuerkauf et al. 2010)."

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Margarita N. Lavides	Ch.4	16	696	16	696	The following as lifted from Philippine NBSAP 2015-2028 should be included in this section: In the Philippines, a total of 70 IAS under 40 families were classified in a profiling done in 16 Protected Areas (ERDB, 2013). Casal (2003) cites that 12 species introduced in the Philippines are among the top 18 species reported adversely affecting the ecosystem. Four of the most important alien invasive pests are the golden apple snail, locally known as golden kuhol (<i>Pomacea canaliculata</i> (Lamarck)), the rice black bug, locally known as itim na atangya (<i>Scotinophara coarctata</i> (Fabricius)), the mango pulp weevil (<i>Sternochetus frigidus</i> (Fabricius)) and the mango seed weevil (<i>S. mangiferae</i> (Fabricius)). Moreover, of the 157 finfish species introduced, 36 have been reported as having established themselves in the wild. Currently, there are evidences that introduced species are replacing native species in aquaculture production in the Philippines.	While this is valuable information, it appears to specific in the context of this RA-AP, i.e. the importance of invasive species has already been highlighted in this section, and the space requirements for this assessment mean that it is not possible to provide this level of detail for all countries involved, and only a very small number of more detailed case studies were included to exemplify certain aspects.
Hanno Seebens	Ch.4	17	711	18	756	In the section of impacts of invasive alien species, it would be helpful to highlight some cost estimations. Though it is difficult to fully estimate the impacts of invasive alien species, monetary values are much easier to communicate to policy and general public. I have no idea whether such studies are available, but I guess that there studies for NZ and Australia at least.	It would be extremely helpful to provide an overarching figure for the entire region. We nonetheless now added the following statement: ". In term of financial implications, Ngiam et al. (2013) have estimated that for Southeast Asia, losses associated to detrimental impacts of IAS amount to about US \$ 33.5 billion annually."
Richard Corlett	Ch.4	17	713	17	725	The contrast between continental systems and oceanic islands in invasibility needs to be explicitly made here.	Given that Australia appears highly "invasible", I am not sure if this distinction is valid?
Shuli Niu	Ch.4	17	738	17	740	cite reference about the rat study	Sentence was removed (in response to other comment)
Richard Corlett	Ch.4	17	739	17	739	Rats have a dominant role as invasives only on oceanic islands not throughout the AP region.	Sentence was removed.
Herve Jourdan (IRD) & Roseli Pellens(MNHN)	Ch.4	17	740	17	740	Add , after island of China: In hotspot such as New Caledonia, the situation could be worse with vertebrate herbivorous and predators nor ants. though rusa deer, wild pigs, rodents, cats and little fire ant species are found very far from the edge (Beauvais et al. 2006), at the interior of most forests. Sites with little fire ant are empty of native fauna, indicating a strong impact in vertebrates and invertebrates (Jourdan, 1997)	This suggested section was not very clear, i.e. the patterns are not necessarily expected in all hotspots, but are rather specific to oceanic islands, while these islands already are often experiencing the impacts you mention, as is also hinted at in the text. Unfortunately, space limits also prohibit us to elaborate too much on individual case studies, since the focus is on providing primarily a broad overview.
Margarita N. Lavides	Ch.4	18	761	18	764	The following should be included after the last sentence: 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)	While it is great to see the progress of the Philippines in this area, the information appears rather limited in geographic scope to conclude this section, and to provide too much detail on a very specific case study.
Richard Corlett	Ch.4	18	780	18	855	Too much of this is out of date. This section should start with the IPCC 2014 WG2 report and then update it with more recent references, not go back in time.	We have now updated section 4.1.5 with more up to date references

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Margarita N. Lavides	Ch.4	18	780	19	855	Again, the authors' bias on speaking only about climate change and ecosystems and biodiversity. The authors should be consistent in their claim about using socio-ecological system framework. There should be some discussion on the impacts of climate change on linked socio-economic and biodiversity systems including ecosystem services. The impacts of extreme weather events is an important nexus for discussion. There has been studies that reflect some of these impacts in SEA, e.g. EEPSEA studies	A new paragraph has been added to reflect impacts of climate change on ecosystem services. We've also added some context around extreme events
Richard Corlett	Ch.4	20	864	20	876	This section is most very out of date and needs to be updated with the extensive new literature.	This has been revised.
Shuli Niu	Ch.4	20	870	20	870	the examples following "poorly understood" only shows what we have know but did not say anything about the knowledge gap	We have deleted "and are poorly understood"
Shuli Niu	Ch.4	20	900	20	900	I am not sure if Iran is a south asian country or west asian country	This follows the classification of subregions under IPBES
Joanne Perry NZ Focal point	Ch.4	23	988	23	1009	there are a number of areas where the intent is not clear, line 992 for example what is meant by 'dependent to the working ages". The two sections need to be reviewed and ideally simplified to a diagramatic representation of the issue.	We have added some explanations to facilitate understanding.
Richard Corlett	Ch.4	23	1011	24	1034	There is more recent literature on this, including the IPCC 2014 WG2 report.	Thank you for the information, but there is no description of migration forced by climate changes

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Margarita N. Lavides	Ch.4	24	1035	24	1035	I suggest to insert a Box here featuring the Live Reef Fish Food Trade (LRFFT) because almost all the indirect drivers mentioned e.g. demographic, economic etc. are direct and indirect drivers of LRFFT leading to reef fish biodiversity loss and other socio-ecological impacts. Another option is to put the Box on LRFFT under 4.3 Interaction among direct and indirect drivers (from Line 1421 page 31) or under 4.4 Effects of drivers on major ecosystem (under Coastal and Marine from Line 2308 page 51). The studies of Yvone Sadovy-Mitcheson (Asia Pacific) and also Michael Fabinyi (Palawan Philippines) and Lavides et al papers (on giant grouper species local disappearances at the country level) are very useful references for this. Examples of these References are as follows: 1. Sadovy De Mitcheson YS, Craig MT, Bertonecini AT, Carpenter KC, Cheung WL, Choat JH, et al. Fishing groupers towards extinction: global assessment of threats and extinction risks in a billion dollar fishery. Fish and Fisheries. 2013; 14: 119–136. doi: 10.1111/j.1467-2979.2011.00455.x 2. Sadovy YJ, Donaldson TJ, Graham TR, McGilvray F, Muldoon G, Phillips M, et al. The Live Reef Food Fish Trade While Stocks Last. Asian Development Bank, Manila; 2003. 3. Lavides MN, Polunin NVC, Stead SS, Tabaranza DG, Comeros MT, Dongallo JR. Finfish disappearances around Bohol, Philippines inferred from traditional ecological knowledge. Environ Conserv. 2010; 36(3): 235–244. doi: 10.1017/s0376892909990385 4. Lavides MN, Molina EPV, de la Rosa GE Jr, Mill AC, Rushton SP, Stead SM, et al. Patterns of Coral-Reef Finfish Species Disappearances Inferred from Fishers' Knowledge in Global Epicentre of Marine Shorefish Diversity. PLoS ONE. 2016; 11(5): e0155752. doi:10.1371/journal.pone.0155752 5. To AWL, Sadovy De Mitcheson S. Shrinking baseline: the growth in juvenile fisheries, with the HongKong grouper fishery as a case study. Fish and Fisheries. 2009; 10: 396-407 6. Fabinyi M, Dalabajan D. Policy and practice in the live reef for food trade: A case study from Palawan, Philippines. Marine Policy. 2011; 35: 371-378.	A box introducing LRFFT was inserted in the section 4.4.8 Coastal and Marine.
Yang Qingwen	Ch.4	24	1036	27	1198	Here, "Economic Drivers" should be focused on the negative effects of listed 6 factors. However, we can only find the description of their developments or even positive effects (eg. eco-tourism). It is suggested to be revised totally.	Both negative and positive effects have been discussed in this section. No indirect driver is only of negative.
NFP of China	Ch.4	24	1053	24	1053	Rhinoceros horns have been removed from the Chinese Pharmacopoeia, and illegal poaching is not caused by economic growth, so explaining the driving factors of economic growth should remove relating description of poaching.	This has been deleted.
Peng Cui	Ch.4	24	1053	24	1055	Poaching of animals in Africa and Indonesia is not relative to Economic growth in China and Vietnam.	This has been deleted.
Joanne Perry NZ Focal point	Ch.4	25	1081	25	1081	Following China's impressive "effort"????	Following China 'there was' a triple increase

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Tatsuya Horikiri	Ch.4	25	1108	25	1109	It seems to me that SCBD Technical series 55 does not necessarily say so. Although poverty reduction may reduce the unsustainable direct pressure on "local" biodiversity of the targeted community, but they continue to benefit from the local BES and their demand for non-local BES may increase, and it is difficult to quantify and mianingfully compare biodiversity of different origin or nature.	We note "may" in the sentence, which shows that the reduction of use of biodiversity is possible, but not definite. Also the term "utilization" can be misleading so we rewrite as "exploitation". We will rewrite it as "there may be a case that poverty reduction will lead to a reduction of exploitation of biodiversity".
Joanne Perry NZ Focal point	Ch.4	25	1111	25	1111	when you state "implys (sic) a beneficial effect on biodiversity conservation", what is this based on, less use of biodiversity for subsistence?	We have added due to less use of biodiversity for subsistence
Prakash Nellyyat	Ch.4	25	1114	26	1147	Under the "Trade liberalization" head along with the 'comparative advantages of APR on natural/biological resources, migration of polluting industries from the Western Developed Nations to the Asian countries also to be considered. After globalization, substantial diversification in international trade has occurred. The manufacturing and export of labour intensive as well as environmentally sensitive industrial products such as textile and leather have significantly increased in developing countries like India. Unfortunately, most of the industrial activities are targeted towards short term economic gains in the form of income, output, employment and foreign exchange without given adequate attention towards minimizing waste, and hence environmental impacts are significant.	"Pollution heaven hypothesis (PHH)" will be inserted in the text. According to Cole (2006), pollution haven hypothesis says that differences in environmental regulations between developed and developing countries may shift manufacturing from the developed world to developing countries to specialize in the most pollution intensive manufacturing sectors. Although not comprehensive, Cole found that PHH was evidenced from some North-South trades including Asia.
Joanne Perry NZ Focal point	Ch.4	25	1115	25	1132	this section is very unclear and needs to be rewritten to tidy both the sentencing and intent of the argument.	This has been rewritten
Henry Scheyvens	Ch.4	25	1116	25	1132	Suggest you have a separate sub-section on regional integration. This is manifested not just in terms of trade, but also financial flows, such as foreign direct investment, and labour flows. The following reference will help get you started on this: Scheyvens, H. (2015). Sustainable management of natural forests in the Asia-Pacific region: Implications of regional economic integration and measures to avoid potential environmental harm. In Greening Integration in Asia: How Regional Integration Can Benefit People and the Environment, IGES White Paper 5, 2015. https://pub.iges.or.jp/pub/sustainable-management-natural-forests-asia	Thanks for new references.
Tatsuya Horikiri	Ch.4	25	1122	25	1123	It might be too strong to affirm that always "International trade results in threatening species with extinction" . In this case, we must stop all kinds of international trade. This part itself reconginizes that the impact of trade liberalization on Biodiversity is complicated, in the last senetence.	Whole sentence has been rewritten.
Joanne Perry NZ Focal point	Ch.4	26	1139	26	1139	insert invasives in relation to most alien marine sepcies. Some alien species arrive under there own steam and with climate change movement from warmer waters into our marine environment is likely to increase - sea turtles, sea snakes etc	Whole sentence has been rewritten.
Joanne Perry NZ Focal point	Ch.4	26	1144	26	1144	re globalization strengthened attitudes favouring conservatin and staff effecitvenss accompany economic growth - based on what evidence?	Whole sentence has been rewritten.
Prakash Nellyyat	Ch.4	26	1149	26	1152	Rather than "Economic incentives", 'Economic Instruments' may be the right heading. Tax is not an incentive but a dis-incentive.	Tax is included in economic incentives. See below. https://www.epa.gov/environmental-economics/economic-incentives#taxes
Richard Corlett	Ch.4	26	1149	26	1159	No sources given.	This has been added.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Henry Scheyvens	Ch.4	26	1161	26	1174	Vietnam has a PES program under which communities who manage upland forests receive payments made by power companies. See https://pub.iges.or.jp/pub/payment-environmental-services-vietnam	We insert the case as "PES is also introduced in Lam Dong in Vietnam, where communities who manage upland forests receive payments made by power companies (Nguyen Quang Tan, 2011).
Joanne Perry NZ Focal point	Ch.4	26	1163	26	1165	The sentence starting "Australia is leading....." is oddly constructed and needs editing to make clearer what its intent is.	This has been deleted.
IPBES NFP - Australia	Ch.4	26	1163	26	1166	<p>We would like to weave in some of the Australian Government effort's in addition to sub-national jurisdictions. It is unclear what the OECD reference is for (i.e. Australian measures in general or only Tasmania?). It might also be useful to remind the reader the purpose of the economic incentives. Suggest also looking at the new New South Wales biodiversity reforms (https://www.landmanagement.nsw.gov.au/have-your-say/) which embed an offset scheme in its planning approval processes (including offset trading) and include significant investment in private land conservation (incentive measures using reverse auctions). Australia is a leading country to introduce the incentives measures.</p> <p>Through the Reef Trust, the Australian Government is using incentives, including grants and reverse tenders, to assist agricultural land managers in the Great Barrier Reef Catchment to implement improved land management practices for water quality and productivity outcomes. These incentives include support to develop and trial innovative land management practices. Additional support is also provided to land managers for training and extension. A cutting edge monitoring, modelling and reporting program is used to estimate the reductions in loads of sediment, nutrients and pesticides entering the Great Barrier Reef as a result of the adoption of the improved land management practices.</p> <p>Some subnational jurisdiction examples include Victoria's biodiversity offset mechanism managed by Bushbroker and Tasmania's inverse auction approach, which has been found to tremendously reduce the cost of conservation. (OECD)</p> <p>such as biodiversity offset (e.g in Victoria) managed by Bushbroker. Inverse auction is also introduced in Tasmania by which cost for conservation is tremendously reduced (OECD, 2010).</p>	<p>Link to current grants program design:</p> <p>https://www.environment.gov.au/marine/gbr/reef-trust/investments/phase-three</p> <p>Links to current reverse tenders program design and case studies:</p> <p>https://www.environment.gov.au/marine/gbr/reef-trust/repeated-reverse-auctions</p> <p>http://www.terrain.org.au/Projects/Reef-Trust/Reef-Trust-Case-Studies</p> <p>Link to monitoring and evaluation program:</p> <p>http://www.reefplan.qld.gov.au/measuring-success/paddock-to-reef/</p>
Margarita N. Lavides	Ch.4	26	1176	27	1198	It is surprising that a discussion on tourism and biodiversity in APR does not include marine tourism especially coral reef tourism when some of the most popular tourist destination for marine tourism e.g. scuba diving are within APR and considering that Coral Triangle is within APR. I suggest some discussion should be included here. CTI documents, for example can provide useful references for this. Also ASEAN Center for Biodiversity also can provide some References not only on marine tourism but tourism and biodiversity in general in the SEA region.	It was mentioned in the section Coastal and Marine.
Joanne Perry NZ Focal point	Ch.4	26	1177	26	1177	amend to state "The rapid expansion of the tourism industry is increasingly impacting on....."	Thanks. Having changed as suggestion.
Richard Corlett	Ch.4	26	1181	26	1181	4% of what?	4% of national GDP

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Joanne Perry NZ Focal point	Ch.4	27	1197	27	1197	change the sentence so it reads "Despite the remarkable contribution....."	Thanks. Having changed as suggestion.
Joanne Perry NZ Focal point	Ch.4	27	1202	27	1203	the first sentence needs rewriting to make clear	It has been rewritten.
Joanne Perry NZ Focal point	Ch.4	27	1206	27	1206	instead of Cultural diversity may be..... change to "Cultural diversity <u>is</u> vital".... End the sentence after humanity. Then start the next sentence "The conservation of indigenous cultures <u>is</u> as important....."	Thanks. Having changed as suggestion.
Joanne Perry NZ Focal point	Ch.4	27	1213	27	1220	the whole paragraph needs to be tidied as the sentencing and message is confused.	More references have been added or updated.
Richard Corlett	Ch.4	27	1213	28	1235	No sources are given.	Sources are provided.
Joanne Perry NZ Focal point	Ch.4	28	1251	28	1251	it should read are growing <u>in</u> the AP region.	This has been revised.
Richard Corlett	Ch.4	28	1251	28	1270	The only reference is from ten years ago for a current hot topic.	reference updated
Joanne Perry NZ Focal point	Ch.4	28	1272	28	1272	what is meant by the statement that "Disasters today are affecting people and their ecosystem dependent...? Affecting both people and the ecosystem they rely on?"	This sentence was modified
Richard Corlett	Ch.4	29	1300	29	1327	No sources	This paragraphy has been rewritten.
Joanne Perry NZ Focal point	Ch.4	29	1310	29	1310	change to read "Key issues are the concentration and discharge of chemicals to the....."	Thanks. Changed as suggestion.
Joanne Perry NZ Focal point	Ch.4	29	1312	29	1313	the last sentence refers to harnessing technology etc. as a conclusion is is not located in the correct section it should be at the end of the discussion on technology as a whole. Suggest deletion.	This paragraphy has been rewritten.
Joanne Perry NZ Focal point	Ch.4	29	1315	29	1315	change the word development to advancement	This has been revised.
Joanne Perry NZ Focal point	Ch.4	29	1316	29	1316	change to read "has provided <u>other</u> countries in the world....."	This has been revised.
Joanne Perry NZ Focal point	Ch.4	29	1317	29	1317	the reference to "inclusive" development is questionable.	This has been deleted.
Joanne Perry NZ Focal point	Ch.4	29	1318	29	1333	It is not clear what is intended by this paragraph. It could be shortened to just say that increasing investment in STEM is proving invaluable.	This paragraph has been rewritten.
Joanne Perry NZ Focal point	Ch.4	30	1351	30	1351	remove the word "each" so that it reads "expanding in countries such as"....."	This has been changed accordingly, many thanks for this suggestion.
Richard Corlett	Ch.4	30	1352	30	1352	A 17 year old source cannot reflect the current situation.	This source specifically relates to the developments mentioned for the 1970s and 1990s, and we believe that in this specific context, a reference from 2000 is appropriate.
Joanne Perry NZ Focal point	Ch.4	30	1354	30	1355	the last sentence needs to be rewritten to make clearer its intent	The sentence was changed to "In conjunction, particularly small firms have contributed strongly to environmental pollution, and bringing these firms into full compliance with environmental legislation needs to be a governance priority."
Richard Corlett	Ch.4	30	1357	30	1366	No sources.	This has been added.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Joanne Perry NZ Focal point	Ch.4	30	1363	30	1363	the sentence beginning "Actually, no country....." should be rewritten.	Changed to:"Overall, no country can effectively address such shared environmental problems on its own."
Joanne Perry NZ Focal point	Ch.4	31	1379	31	1419	these three sections need editing to tidy the language and intent.	The sections have been edited to clarify the messages contained.
Henry Scheyvens	Ch.4	31	1384	31	1386	Forest Rights Act was enacted in 2006 and came into force in 2008. For a good reference see Chapter 2 Forest Rights and Conservation: FRA Act 2006, in India in Scheyvens, H. e. (2011). Critical review of selected forest regulatory initiatives: Applying a rights perspective. Hayama: IGES. https://pub.iges.or.jp/system/files/publication_documents/pub/policyreport/2275/criticalreview_final.pdf	Many thanks for this helpful information. The section has now been changed accordingly, including this great reference and also cross-referencing to Chapter 2.
Joanne Perry NZ Focal point	Ch.4	31	1421	35	1515	the complete section 4.3 needs editing to make it clear what is being discussed.	The section has now been modified to highlight the importance of understanding interactions between drivers, as policy should not look at them in isolation.
Jennifer Rubis	Ch.4	35	310	35	313	The sentence quotes: Population 310 growth and increased demand has shortened fallow 311 periods and intensified cultivation and demands in tropical and subtropical South Asia and South 312 East Asia making the traditional Swidden or shifting cultivation being a major cause of deforestation 313 and therefore also a major cause of soil erosion, (Cairns, 2015).However the preface to the Cairns volume says: "Swidden has long been viewed as an environmentally destructive practice. Countless studies have documented the supposed destructiveness of swidden practices and almost as many have sought to refute these claims. In this volume, the context has changed. These authors are no longer writing in opposition to claims that swidden causes degradation. Rather, they are writing of the environmental benefits of swidden." (Cairns, M. ed., 2015. Shifting cultivation and environmental change: Indigenous people, agriculture and forest conservation. Routledge.)	Thanks for suggestion. Considering this paragraph partly duplicated with Chapter 2 and Chapter 3 about ILK in biodiversity conservation, shifting cultivation is shortened as: Shifting cultivation, also called 'Swidden', considered as an important driver in tropical forest areas, is an age-old way of life or agricultural practice across the tropical or subtropical AP region (Karki et al. 2017). It maintains a higher level of biodiversity than many alternative uses of forest land, and provides significant benefits to wildlife populations (Cairns, 2015). The primitive cultivars grown by the Swidden cultivators, are also potential sources of genetic material for modern plant breeders (Erni, 2015; Karki et al. 2017).

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Jennifer Rubis	Ch.4	35	310	35	313	<p>It is also important to note that shifting cultivation is a livelihood practised by indigenous peoples, and the negative debate on this has had consequences for indigenous peoples. Therefore it is one of the areas where indigenous peoples themselves have contributions (See for example: Shimray et al in Ch 2 of Madhav Karki, Rosemary Hill, Dayuan Xue, William Alangui, Kaoru Ichikawa and Peter Bridgewater (eds.). 2017. Knowing our Lands and Resources: Indigenous and Local Knowledge and Practices related to Biodiversity and Ecosystem Services in Asia. Knowledges of Nature 10. UNESCO: Paris. pp. 200; and Erni, C., 2015. Shifting Cultivation, livelihood and food security. New and Old Challenges for Indigenous Peoples in Asia. Editor FAO, IWGIA, AIPP. Bangkok.)</p> <p>Some reviews and assessments of research on shifting cultivation, particularly in SE Asia include EDressler, W.H., Wilson, D., Clendenning, J., Cramb, R., Keenan, R., Mahanty, S., Bruun, T.B., Mertz, O. and Lasco, R.D., 2017. The impact of swidden decline on livelihoods and ecosystem services in Southeast Asia: A review of the evidence from 1990 to 2015. <i>Ambio</i>, pp.1-20. ; Ribeiro Filho, A.A., Adams, C. and Murrieta, R.S.S., 2013. The impacts of shifting cultivation on tropical forest soil: a review. <i>Boletim do Museu Paraense Emílio Goeldi. Ciências Humanas</i>, 8(3), pp.693-727; Van Vliet, N., Mertz, O., Heinemann, A., Langanke, T., Pascual, U., Schmook, B., Adams, C., Schmidt-Vogt, D., Messerli, P., Leisz, S. and Castella, J.C., 2012. Trends, drivers and impacts of changes in swidden cultivation in tropical forest-agriculture frontiers: a global assessment. <i>Global Environmental Change</i>, 22(2), pp.418-429.; Cramb, R.A., Colfer, C.J.P., Dressler, W., Laungaramsri, P., Le, Q.T., Mulyoutami, E., Peluso, N.L. and Wadley, R.L., 2009. Swidden transformations and rural livelihoods in Southeast Asia. <i>Human Ecology</i>, 37(3), pp.323-346.; Ziegler, A.D., Bruun, T.B., Guardiola-Claramonte, M., Giambelluca, T.W., Lawrence, D. and Lam, N.T., 2009. Environmental consequences of the demise in swidden cultivation in montane mainland Southeast Asia: hydrology and geomorphology. <i>Human Ecology</i>, 37(3), pp.361-373. Padoch, C. and Pinedo-Vasquez, M., 2010. Saving slash-and-burn to save biodiversity. <i>Biotropica</i>, 42(5), pp.550-552. ; Van Vliet, N., Mertz, O., Birch-Thomsen, T. and Schmook, B., 2013. Is there a continuing rationale for swidden cultivation in the 21st century?. <i>Human Ecology</i>, 41(1), pp.1-5. ; Mertz, O., Padoch, C., Fox, J., Cramb, R.A., Leisz, S.J., Lam, N.T. and Vien, T.D., 2009. Swidden change in Southeast Asia: understanding causes and consequences. <i>Human Ecology</i>, 37(3), pp.259-264.</p>	Thanks for suggestion. Considering this paragraph partly duplicated with Chapter 2 and Chapter 3 about ILK in biodiversity conservation, shifting cultivation is shortened as: Shifting cultivation, also called 'Swidden', considered as an important driver in tropical forest areas, is an age-old way of life or agricultural practice across the tropical or subtropical AP region (Karki et al. 2017). It maintains a higher level of biodiversity than many alternative uses of forest land, and provides significant benefits to wildlife populations (Cairns, 2015). The primitive cultivars grown by the Swidden cultivators, are also potential sources of genetic material for modern plant breeders (Erni, 2015; Karki et al. 2017).
Margarita N. Lavides	Ch.4	35	1517	36	1567	<p>Mining as impacting forests and biodiversity should be included here. A broad based description of impacts on forests and biodiversity and some social impacts can be found in International Council of Mining and Metals publication titled Good Practice Guidance for Mining and Biodiversity. These impacts can be applied in APR as well. It should be noted, however, that while they described some good practices but there is rarely an example for APR. Also it should be noted that they addressed impacts and good practice incompletely. For example they mention impacts on water per se but no mention on impacts on human health and how to address this. ICCM failed to include impacts on human health in t the social interfaces with biodiversity. Human health is just one, other social interfaces with biodiversity viz a vis mining are community displacement, lost of customary tenurial rights, further poverty and lost of future developmental options, among others.</p>	Thanks, reference was cited and paragraphy rewritten.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Richard Corlett	Ch.4	35	1517	58	2650	Section 4.4 has massive overlap with Chapter 3 and largely relies on old sources from 5-10 years ago or older. It could be brought up to date by citing Chapter 3 for all 'status and trends' information. The use of old UN reports is particularly common and suggests that some authors have relied on their books shelves rather than reading recent updates on the same topics.	Reference being updated and text shortened.
Jyotirmoy Shankar Deb	Ch.4	35	1521	36	1596	Infrastructure development for tourism and employment degrades the ecosystems. You should mention it clearly, rather than call it as anthropogenic activities.	'tourism booming' has been added
Henry Scheyvens	Ch.4	35	1535	35	1535	Check your references. Ranching is not a major deforestation driver in the AP region. It is in South America.	'Ranching' has been deleted.
Henry Scheyvens	Ch.4	35	1542	35	1542	FAO (2009) is a dated reference. Need a more recent reference to capture trends.	Reference was updated.
Henry Scheyvens	Ch.4	35	1549	35	1551	Need to reword. Some oil palm is grown under outgrower schemes by smallholders and some rubber is grown on large commercial estates. Also, unclear what (85–93%) refers to.	This sentence was reworded.
Jennifer Rubis	Ch.4	36	1563	36	1565	However, 1563 shifting cultivation has, with growing human 1564 populations, become destructive of forests and watersheds. It is undeniable that the age-old 1565 systems of agriculture are breaking down in the AP region in recent decades (Cairns, 2015). --> It is important to distinguish first between the different forms of shifting agriculture (from as early as Conklin's work, it has been acknowledged that there is a huge diversity of shifting cultivation systems in SEAsia region alone). So the 'breaking down' could be a shift away from shifting cultivation to other forms of farming practice (if it is so assessed. In which case, this nuance could be explicitly distinguished. Also see comment above.	Thanks for suggestion. Considering this paragraph partly duplicated with Chapter 2 and Chapter 3 about ILK in biodiversity conservation, shifting cultivation is shortened as: Shifting cultivation, also called 'Swidden', considered as an important driver in tropical forest areas, is an age-old way of life or agricultural practice across the tropical or subtropical AP region (Karki et al. 2017). It maintains a higher level of biodiversity than many alternative uses of forest land, and provides significant benefits to wildlife populations (Cairns, 2015). The primitive cultivars grown by the Swidden cultivators, are also potential sources of genetic material for modern plant breeders (Erni, 2015; Karki et al. 2017)
Henry Scheyvens	Ch.4	36	1569	36	1570	"Protected forest areas in the AP region are the last remaining species-rich 'islands' for biodiversity protection." Not true. Some countries, such as Papua New Guinea, have millions of hectares of undisturbed biodiversity-rich forests that are not under protected area management. They are still pristine because they are inaccessible.	This sentence was changed into 'Protected forest areas in the AP region are the important lands for biodiversity protection'.
Henry Scheyvens	Ch.4	36	1581	36	1586	Detailed accounts of the evolution of participatory forest management in India and Nepal can be found in: Scheyvens, H., Hyakumura, K., & Seki, Y. (2007). Decentralization and state-sponsored community forestry in Asia: Seven country studies of transitions in forest governance, contemporary forest management and the prospects for communities to contribute to and benefit from sustainable forest management. Hayama: IGES. https://pub.iges.or.jp/pub/decentralisation-and-state-sponsored-community	Thanks. This reference was adopted.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Henry Scheyvens	Ch.4	36	1593	36	1596	REDD is not "widely implemented in South and Southeast Asia countries." You need to be more careful on this issue. If we understand REDD to mean a mechanism for performance-based payments for activities that reduce emissions from deforestation and forest degradation (as defined by the UNFCCC), then in fact there are few REDD activities in these countries. There are many activities related to capacity building and readiness for REDD+, but very few activities generating performance-based payments. The statement that these have frequently been monocultures is total nonsense. Most REDD+ projects and programmes target the protection of species diverse natural forests. Suggest you refer to the IGES REDD+ online database (http://redd-database.iges.or.jp/redd/) and the GCP REDD Desk (http://theredddesk.org/).	The sentence about REDD was deleted.
NFP of China	Ch.4	37	1624	37	1624	The data is out of date. China has made great changes through effective improvement measures since 2000. So the data can not reflect the current facts	Additional sentence added including reference to highlight that program and policies have been implemented to restore grassland function
Tian Yu	Ch.4	37	1651	37	1655	The data is out of date, can not reflect the facts,	Agreed, however there are few estimated costs for IAS at this level for this region and we believe that keeping this sentence is valid
Shuli Niu	Ch.4	38	1676	38	1678	Since this example is talking about Tibet, it is better to put it in the next section "alpine ecosystem"	Sentence has been amended to reflect snow in high altitude pastoral areas only
Jyotirmoy Shankar Deb	Ch.4	38	1705	39	1751	Development of residential and commercial buildings for increased population densities as well as greedy tourism practices destroying the alpine ecosystems. For example, a 100+ crores project has been started near Pelling, Sikkim, India that destroying a huge areas of alpine forest to construct a temple as well as tourist spot.	Thanks. This case was cited to illustrate the anthropogenic pressure.
Shuli Niu	Ch.4	39	1721	39	1721	"focused"-->"attracted"	This has been revised.
Joanne Perry NZ Focal point	Ch.4	39	1730	39	1730	insert after cushion field "communities leading to....)	Inserted as suggested.
Harald Pauli	Ch.4	39	1731	39	1731	suggest to insert after '...Telwala et al., 2013)': Whilst upward shifts of alpine plants were already documented in the Himalaya region (Telwala et al. 2013), mountain regions with a more isolated, fragmented and small-scale alpine zone and a large proportion of endemic species, are expected to be especially prone to climate-change-driven biodiversity losses, such as in mountains of Iran (Noroozi et al. 2011), New Guinea (Hope 2014) and Australia (Venn et al. 2014; Williams et al. 2015).' References: 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. <i>Biodiversity Conservation</i> 20: 1318-1338. Hope G 2014. The Sensitivity of the high mountain ecosystems of New Guinea to climatic change and anthropogenic Impact. <i>Arctic, Antarctic and Alpine Research</i> 46: 777-786. Venn S, Pickering C, Green K 2014. Spatial and temporal functional changes in alpine summit vegetation are driven by increases in shrubs and graminoids. <i>AoB Plants</i> 6: plu008; doi:10.1093/aobpla/plu008. Williams et al. 2015. An International Union for the Conservation of Nature Red List ecosystems risk assessment for alpine snow patch herbfields, South-Eastern Australia. <i>Austral Ecology</i> 40:433-443.	Thanks. This sentence was inserted.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Joanne Perry NZ Focal point	Ch.4	39	1733	39	1733	insert increasing before abundance	Inserted as suggested.
Joanne Perry NZ Focal point	Ch.4	39	1739	39	1740	the first sentence needs rewriting to make clear	This sentence has been rewritten as suggestion.
Joanne Perry NZ Focal point	Ch.4	39	1739	39	1751	this whole sections needs editing and review.	This paragraphy has been rewritten.
Richard Corlett	Ch.4	39	1753	40	1809	The whole of 4.4.4 is copied from a single old source and both Chapter 3 and last 10 years of research are ignored.	Thanks. New publications were cited. The structure of this section was changed and most of text improved.
IPBES NFP - Australia	Ch.4	39	1755	39	1759	Please note this is not referenced in the original text. Is it possible to source a reference?	New references were added. Most of text was rewritten.
Joanne Perry NZ Focal point	Ch.4	41	1830	41	1830	change to "The growing land area devoted to....."	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	41	1831	41	1831	change in turn lowers to "increasingly reduces biodiversity and increases the effects of non point source pollutin	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	41	1832	41	1832	when you talk about "lack of adaption in agroforestry systems..." in what way? Reliance on a few commerical species, or the use of large scale monocultures or the lack of alternative forest product use? Please clarify	We've modified the sentence with a new reference to clarify the issues around loss of traditional systems, leading to decling in ecosystem services.
Joanne Perry NZ Focal point	Ch.4	41	1838	41	1840	this sentence is unclear. Please amend to make clearer the intent.	We've modified the sentence to simplify and clarify.
Joanne Perry NZ Focal point	Ch.4	42	1870	42	1870	does the reference to growth rate refer to population?	We've removed growth rate, so that it is clearer that it is about inland capture fisheries production.
Margarita N. Lavides	Ch.4	42	1882	43	1893	The link between and among aquaculture and marine biodiversity specifically related to marine capture fisheries and fish nutrition and human health would be good to include in the spirit of socio-ecological systems framework. An example of good reference for this is the following: Hixson MS. 2014. Fish Nutrition and Current Issues in Aquaculture: The balance in providing safe and nutritious seafood in an environmentally sustainable manner. Journal of Aquculture Research and Development 5: 234 doi:10.4172/2155-9546.1000234	A new sentence has been added to reflect the comment
Joanne Perry NZ Focal point	Ch.4	43	1901	43	1901	change sentenct to read "Pest management is a significant ongoing cost to both conservation and the agricultural sector....."	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	43	1906	43	1906	change creates to also has	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	43	1909	43	1909	delete "which are the main source for" insert alongside	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	43	1911	43	1912	delete "but are likely more than" and insert "but these are then".....	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	43	1914	43	1914	delete "could damage" . At the end of the sentence insert "and indigenous biodiversity"	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	44	1921	44	1921	change "kept" to "remains high" in Asia	This has been modified as suggested.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Joanne Perry NZ Focal point	Ch.4	44	1922	44	1922	change while declined in Oceania to "but has in Oceania"	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	44	1935	44	1935	change thus becomes to "is becoming"	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	44	1938	44	1938	inserrt "newly" in front of emerged	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	44	1943	44	1943	change especially to "in Asia this is especially so for....."	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	44	1949	44	1949	The role of these food suppy areas becomes even more important during economic and political crisis. For example peri urban.....	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	44	1953	44	1953	change to "into already densely populated areas is the most prominent	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	44	1965	44	1965	delete on the other hand and start the sentence "As urbanization....."	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	45	1973	45	1987	this complete section needs editing to tidy up the language	The paragraph has been edited with the help of authors who are native English speakers.
Joanne Perry NZ Focal point	Ch.4	45	1989	45	1989	delete furthermore and start the sentence at "Artificial"	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	45	1990	45	1990	delete "are helpful" and insert "also help to"	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	45	2003	45	2003	after human insert "mediated"	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	45	2010	45	2010	change are "accidently" to "have been accidently"	This has been modified as suggested.
NFP of China	Ch.4	46	2032	46	2035	The reference cited in the text refers to the impact of land use and urbanization on NPP, and it's only in Shenzhen as a case, it does not explain the impact of climate change, the contents has nothing to do with this section, recommend deleting	The sentence has been deletd.
lvxianguo	Ch.4	46	2033	8	2035	文献中Deyong, 2009的结果是针对深圳市的，并不能代表中国南方NPP的变化。	The sentence has been deletd.
Joanne Perry NZ Focal point	Ch.4	46	2037	46	2037	delete "the" in front of hazards andd instead insert a range of climate related hazards.	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	46	2045	46	2055	the whole paragraph needs to be tidied as the sentence structure and message is confused.	The last sentence in the paragraph has been modified.
Joanne Perry NZ Focal point	Ch.4	46	2060	46	2060	delete explain large portion - insert" are responsible for a large percentage of the"	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	47	2072	47	2072	end sentence at service sectors. New sentence "The resultant off- and on-farm wage disparity becomes a strong driver promoting"	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	47	2074	47	2074	Delete "such a result" start the sentence at "The presence of	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	47	2077	47	2077	delete overwhelmed - insert "often overtaken" by.....	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	47	2082	47	2082	First sentence should read "Environmental sustainability is challenged by rapid urbanisation and the result changes in consumption patterns and increased energy and water demands.	This has been modified as suggested.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Joanne Perry NZ Focal point	Ch.4	47	2091	47	2091	delete potential determinant - replace with needed	We do not agree with the suggestion because spatial planning is not always required. Here we would like to say it is a possible solution or measure to manage urbanization.
Joanne Perry NZ Focal point	Ch.4	47	2095	47	2095	delete "are in the array of urban growth management measure that" replace with "and often urban growth management measures" have been practiced.....	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	47	2103	47	2103	after land uses insert "with those of biodiversity and ecosystem services", would be necessary.....	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	47	2105	47	2105	delete "A policy" insert "Policies"	This has been modified as suggested.
Joanne Perry NZ Focal point	Ch.4	47	2106	47	2106	delete "on the other hand" insert "Restrictions have a" negative impact on....	This has been modified as suggested.
Binaya Raj Shivakoti	Ch.4	48	2135	48	2137	Global scope not specific to APR, better to delete or modify	sentence has been deleted
Tian Yu	Ch.4	48	2152	48	2152	The data is out of date, can not reflect the facts,	the reference to Stratford et al 2004 has been removed
Richard Corlett	Ch.4	48	2163	48	2163	It should be mentioned that most agriculture on deep peats is not sustainable because the peat oxidizes and collapses after drainage.	A reference to peat oxidisation has been included.
Joanne Perry NZ Focal point	Ch.4	49	2174	49	2174	delete "that are" insert "particularly as they are generally" fed.....	The change has been accepted.
NFP of China	Ch.4	49	2204	49	2219	The references cited in the text have nothing to do with the content, it is recommended to delete line "2214-2219"	The paragraph has been removed.
Binaya Raj Shivakoti	Ch.4	50	2236	50	2253	General descriptions not specific to APR, better to delete or modify	The paragraph has been removed.
Pham Ngoc Bao	Ch.4	50	2236	50	2260	Repetition with previous section 4.1.3 Pollution - (3) Wastewater	The paragraph with general statements on pollution has been removed. Specific examples related to freshwater wetlands have been kept.
Richard Corlett	Ch.4	50	2236	50	2287	These two sections (4) and (5) need updating.	We have now updated section (4) and (5) with more up to date references
Government of Japan	Ch.4	50	2258	50	2260	The most influential driver of what?	A mention on biodiversity has been added.
Ixianguo	Ch.4	50	2272	50	2274	关于冰川融化的数据，建议引用第三次气候变化国家报告而非第二次报告。	The reference to the national report has been updated.
Joanne Perry NZ Focal point	Ch.4	51	2289	51	2306	there needs to be more examples identified here, RAMSAR sites, local government policies, Aichi Targets, SDG's promoting value of wetlands etc.	More references to Ramsar initiatives, local stories have been added.
Jyotirmoy Shankar Deb	Ch.4	51	2291	51	2306	We should note a fact that Lack of appropriate Government policies to satisfy the SDGs as well as protection of wetland ecosystems.	A mention of the lack of appropriate government policies has been added.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Kwan-Sung Song (NFP Korea)	Ch.4	51	2308	58	2650	Although the contribution of biodiversity and ecosystem services provided by coastal and marine ecosystem is higher than the others, the contents related to the ecosystem is still lacking. For examples, large-scaled reclamations and illegal harvestings could affect biodiversity and ecosystem service in mudflats. In addition, microplastics could seriously affect the survival rate of wildlife, such as microbenthos and migratory seabirds. Therefore, it needs to be supported by specific data or relevant cases. In 2017, Republic of Korea introduced a regulation that prohibits the use of microplastic in cosmetics (in May) and mouthwash, toothpaste, and tooth whiteners (in July).	Habitat change, overfishing, and microplastics have been included in the text.
Shamik Chakraborty	Ch.4	51	2312	52	2337	Overexploitation of coral reef resources and estuarine mudflata and seagrass systems can also be mentioned here. These are the three most biologically productive habitat providers alongwith mangroves. It reads like only mangrove forests are overexploited mainly. I suggest these pragraph can come after some introductory sentences about the overall situaltion of the 4 most valuable coastal ecosystems, and then some more examples with the mangrove. I also suggest a global /or APR map (if possible) showing trend of marine and coastal ecosystem loss.	Here we talk about the overexploitation of mangrove trees. The reference of Mcleod et al. (2011) has been cited for the loss of mangroves.
Richard Corlett	Ch.4	51	2317	51	2324	If mangroves are being clear at only 0.18% a year none of the rest of this section is true. I suspect the earlier sources were guesses and the 1.18% comes from remote sensing and is correct.	The statement was changed to "with an average rate of 0.7-3.0% per year (Mcleod et al. 2011)".
IPBES NFP - Australia	Ch.4	51	2319	51	2322	Mangroves are cleared or modified to meet resource and changed land use requirements, and this has resulted in a nett loss of mangrove habitat in the Asia Pacific Region. Historically Australia contributed to that loss in the 1970's to 1990's through significant coastal infrastructure development (Jupiter, Potts, Phinn, & Duke, 2007; Lovelock & Ellison, 2007). However Australian mangrove habitat has increased in area throughout the 2000's, reflecting their significant expansion into saltmarsh habitats during this time, as well as implementation of better environmental protections, and improved remote sensing capability (Rogers, et al., 2005; Montreal Process Implementation Group for Australia, 2008; Kelleway, et al., 2015; Saintilan, et al., 2015). Relevant references to the proposed change: - Rogers, K., Saintilan, N. and Heijnis, H., 2005, Mangrove encroachment of salt marsh in Western Port Bay, Victoria: The role of sedimentation, subsidence, and sea level rise. Estuaries 28(4):551-559 - MIG (Montreal Process Implementation Group for Australia (2008). Australia's State of the Forests Report 2008, Bureau of Rural Sciences, Canberra (link at https://web.archive.org/web/20110316103324/http://www.daff.gov.au/brs/publications/series/forest-profiles/australian_forest_profiles_mangroves). - Kelleway, J. et al., 2015, Seventy years of continuous encroachment substantially increases 'blue carbon' capacity as mangroves replace intertidal salt marshes. Global Change Biology 22(3):1097-1109 - Saintilan, et al., 2015, Mangrove expansion and salt marsh decline at mangrove poleward limits. Global Change Biology 20(1):147-157	The statement and more recent references have been included in the text.
Joanne Perry NZ Focal point	Ch.4	52	2339	52	2339	Start the paragraph with "Poor fisheries management and overfishing have long lasting....."	The statement has been revised accordingly.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
IPBES NFP - Australia	Ch.4	52	2345	52	2349	<p>Bluefin tuna</p> <p>This part says that bluefin tuna, as a large marine species that has been harvested heavily, shows no sign of recovery. This is <u>not</u> the case for southern bluefin tuna, which is tracking against a CCSBT-mandated rebuilding plan. Pacific bluefin tuna has also been heavily harvested but is not protected in the same way, so it's probably not an accurate description of what's happening for that species, either.</p> <p>Assessments of Southern Bluefin Tuna show that the stock biomass is increasing. This is a sign of recovery.</p> <p>Sea lions</p> <ul style="list-style-type: none"> • In Australia, sea lions are listed as marine species under the Environment Protection and Biodiversity Conservation Act 1999 which means that the harvest of this species is prohibited in Australian Government land or in Commonwealth waters without a permit. • Australian sea lions can interact with fishing boats that use gillnet gear. The Australian Fisheries Management Authority (AFMA) collects data on interactions with protected species through their monitoring programs. AFMA also provides quarterly information on all interactions with protected species reported by fishers in Commonwealth fisheries to the Department of the Environment and Energy. These reports are available on the AFMA website, or for earlier data on the Department of the Environment and Energy website. <p>Dugongs and dolphins</p> <ul style="list-style-type: none"> • Although this statement might be historically accurate, in Australia there are now strong measures in place to protect these species. For example, there are Australian whale sanctuaries (to protect all whales and dolphins found in the Australian waters) and Dugong Protection Areas to protect dugongs. 	Bluefin tuna has been changed to Pacific bluefin tuna and the words "despite protection" have been removed. Sea lions have been removed from the statement.
Joanne Perry NZ Focal point	Ch.4	52	2346	52	2346	after heavily harvested, it should read "but despite protection shows no signs of recovery"	The word "protection" has been removed from the statement according to a reviewer's comment.
Joanne Perry NZ Focal point	Ch.4	52	2365	52	2365	start a new paragraph at "Since the mass production of plastics....."	A new paragraph is done.
Joanne Perry NZ Focal point	Ch.4	52	2375	52	2375	need to include the examples of over the counter pharmaceutical use, including colloidal silver, anti-inflammatory treatments, contraceptives entering waterways via grey water and these are not filtered out in waste water treatment plants	Here heavy metals and trace elements are emphasized, which might not fit into pharmaceutical use.
Joanne Perry NZ Focal point	Ch.4	53	2383	53	2383	what is the evidence for the opening statement - is this due to climate change, ocean acidification, seawarming, increased nutrient run off etc.	This is primarily due to increased nutrients. The words and a most recent reference have been added in the statement.
Shamik Chakraborty	Ch.4	53	2393	53	2404	Jellyfish invasion in the world's seas is a growing problem. The causes are unknown but may be caused by climatic changes or decline of fishes due to unsustainable fisheries practices, or both. This can be mentioned here. For more see: Graham WM, Bayha KM 2007 14 Biological invasions by marine jellyfish. In: Nentwig W (ed) Ecological studies, Vol 193, biological invasions. Springer-Verlag, Berlin, p 240–255	Jellyfish might not be alien species.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Joanne Perry NZ Focal point	Ch.4	53	2395	53	2395	Start the paragraph with " Since the advent of sea travel, people have.....	This has been done.
Joanne Perry NZ Focal point	Ch.4	53	2396	53	2396	delete with them and replace with "to new locations"	The word has been replaced accordingly.
Joanne Perry NZ Focal point	Ch.4	53	2405	53	2405	you could use the example of lionfish now being harvest commercially as a way of managing the population, likewise commercial harvest of undaria (wakame), also in NZ the invasive greenlipped mussels is farmed commercially compared to the smaller blue lipped mussel that is a native species.	Here we emphasize the effects of invasive species.
Joanne Perry NZ Focal point	Ch.4	53	2406	53	2418	there is no mention of seabed/sand mining, gravel extraction and other extractive industries in the section on habitat change.	The cases have been added in the text.
Richard Corlett	Ch.4	55	2498	55	2505	Natural hazards don't fit in a section on human impacts.	Here we are talking about drivers, not only human impacts
Joanne Perry NZ Focal point	Ch.4	55	2498	55	2506	Need to mention the issue of coastal uplift and loss of ecosystem services as a result of earthquakes e.g. Kaikoura Earthquake late in 2016 resulted in meters of uplift and the destruction of paua habitat http://www.newshub.co.nz/home/new-zealand/2016/11/paua-threatened-after-quake-lifts-kaikoura-sea-bed.html	The statement has been added in the text accordingly.
Joanne Perry NZ Focal point	Ch.4	55	2517	55	2517	new sentence "They will however potentially have positive benefits for humans."	The sentence has been added in the text.
Richard Corlett	Ch.4	55	2518	56	2650	This is very out of date and often very misleading. There is no excuse for not using the most recent information on this key topic.	Old references have been replaced by the most recent references between 2015~2017.
Joanne Perry NZ Focal point	Ch.4	57	2595	57	2595	Department of Climate Change - which country are you referring to here?	Australia. Their research regarding the effects of climate change on tropical ecosystems is more comprehensive.
Margarita N. Lavides	Ch.4	57	2597	57	2614	Coral bleaching events of Great Barrier Reef in 2016 and 2017 should be mentioned here. References from Terry Hughes of James Cook University and other Australian scientists and universities and GBR Authority should be referred to.	The most recent database (Donner et al. 2017) is cited here.
Joanne Perry NZ Focal point	Ch.4	58	2635	58	2650	There needs to be some statement of the effect that this will have on BES. Loss of food production for example (provisioning services)	The statement has been added in the text accordingly.
MDFortes	Ch.4	58	2651	58	2651	Where does information like this come in? Chapter 6? ==> "Seagrass Ecosystem Conservation in Southeast Asia Needs to Link Science to Policy and Practice?" (This is from Fortes, in review)	Not clear what reviewer's meaning
MDFortes	Ch.4	58	2665	60	2755	For the region, this fact should be more emphasized: Islands, in spite of their diverse geography and cultures, share similar economic and sustainable development challenges, most important of which are difficult access to resources, a small but rapidly growing population, remoteness, susceptibility to natural disasters, excessive dependence on trade with neighbors and vulnerability to global developments. They produce very low levels of greenhouse gas emissions, which means that they will suffer disproportionately from the damaging impacts of climate change. Key vulnerabilities of islands are products of the combined effects of these factors, threatening the achievement of their sustainable development goals.	We appreciate this helpful comment and have included as much as possible (given space imitations) into the document with references where possible.
Joanne Perry NZ Focal point	Ch.4	59	2671	59	2673	The last sentence is confusing, please clarify intent.	Sentence has been reworded

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Richard Corlett	Ch.4	59	2675	60	273	All the sections on islands use almost entirely literature from >10 years ago. This is just laziness.	This comment is unhelpful and suggests that older references have no value. This is incorrect - data can remain relevant despite the age of the data source. However, we have revised parts of this section to include additional references.
Government of Japan	Ch.4	59	2708	59	2710	The situation is almost the same in Okinawa. "Amami" should be "Okinawa and Amami-Oshima". [Reference: Efforts of eradication of mongoose (in Japanese) http://kyushu.env.go.jp/naha/wildlife/gairai.html -> There is an English information (pdf) in this website (title: "Mongoose Eradication Project in Yambaru, Okinawa") Press release of Ministry of the Environment, Japan (in Japanese) http://kyushu.env.go.jp/naha/pre_2015/2627_1.html]	This sentence has been corrected and information provided has been added to the text
Joanne Perry NZ Focal point	Ch.4	59	2715	59	2715	NZ has a number of examples that could be included in here Predator free 2050 http://www.doc.govt.nz/predator-free-2050 , Battle for our Birds http://www.doc.govt.nz/our-work/battle-for-our-birds/ , War on Weeds http://www.doc.govt.nz/nature/pests-and-threats/war-on-weeds/ .	We appreciate these insights and have included mention of reversing species extinction and decline of the Predator Free 2050 program only due to lack of space.
Joanne Perry NZ Focal point	Ch.4	61	2802	61	2802	Note that in New Zealand many of our mountain tops are protected in National Parks and are sacred to our Maori people therefore they are highly valued and protected. They also have recreational, landscape and tourism values.	A mention to New Zealand's protected mountain areas has been added
Margarita N. Lavides	Ch.4	61	2813	61	2813	An example of resource-overexploitation as per discussion in this paragraph should follow towards the end of this paragraph.	An example about caterpillar fungus in the Himalayas was added.
Joanne Perry NZ Focal point	Ch.4	62	2837	62	2837	This section should also discuss the effect of climate change on species diversity - for example species including pest shifting range. In NZ rodents are moving further up into the alpine zone as it becomes more habitable for them. We also have movement of pest tree species such as wilding pines into higher alpine areas as a result of the spread of associated mycorrhizal species underground.	We've added a reference to climate change, although the impact is uncertain as temperature and precipitation can influence the change in spread risk.
Richard Corlett	Ch.4	63	2884	63	2886	Old and not, I think, supported by the last 10 years literature.	This sentence was deleted.
Joanne Perry NZ Focal point	Ch.4	63	2894	63	2894	New Zealand undertakes specific lahar management in the Central Plateau of the north island to reduce the risk as this is a high tourism area. http://www.doc.govt.nz/Documents/science-and-technical/SciencePoster87.pdf	Thanks for suggestion. Following sentences added: Lahars from Crater Lake are a significant hazard on the volcano and in its draining valleys and surrounding plains in the central North Island of New Zealand. To reduce the risk of lahar New Zealand undertakes specific management in Mt. Ruapehu as this is the largest ski area in this country.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Harald Pauli	Ch.4	63	2916	64	2918	<p>suggest to add after '...high mountains': 'such as through the recently established and further developing interdisciplinary monitoring approach in the Hindu Kush-Himalaya region (Chettri et al. 2015) and the international GLORIA network of permanent vegetation plots (Pauli et al. 2015; Salick et al. 2014).'</p> <p>References: Chettri N, Bubb P, Kotru R, Rawat G, Ghate R, Murthy MSR, Wallrapp C, Pauli H, Shrestha AB, Mool PK, Chaudhary D, Chaudhary RP, Mathur PK, Peili S, Ning W, Sharma E 2015. Long-term environmental and socioecological monitoring in transboundary landscapes. ICIMOD Working Paper 2015/1. ICIMOD, Kathmandu, 24 pp., ISBN 978-92-9115-334-3. Pauli H, Gottfried M, Lamprecht A, Niessner S, Rumpf S, Winkler M, Steinbauer K, Grabherr G (coordinating authors & eds.), (2015). The GLORIA field manual – standard Multi-Summit approach, supplementary methods and extra approaches. 5th edition. GLORIA-Coordination, Austrian Academy of Sciences & University of Natural Resources and Life Sciences, Vienna, doi 10.2777/095439. Salick J, Ghimire SK, Fang Z, Dema S, Konchar KM 2014. Himalayan alpine vegetation, climate change and mitigation. J of Ethnobiology 34: 276-293.</p>	Thanks for your suggestion. The sentence was modified and references added.
Kwan-Sung Song (NFP Korea)	Ch.4	64	2937	68	3085	Can the contents of AP IPBES Regional Assessment reflect the tendency of the whole countries in AP? It is reasonable to consider the difference and similarity of the tendency between major countries (e.g., China, Republic of Korea, Japan, Australia, New Zealand, India, etc.) and the others, and then carefully analyze the tendency of biodiversity and ecosystem services.	The contents reflect a general tendency in regional or subregional level, but it cannot cover all of countries due to lack of enough data in some of them.
Prakash Nelliya	Ch.4	64	2941	64	2942	<p>"For Aichi Targets assessment, the IPBES indicators are used to assess the general trends of changes in biodiversity and ecosystem services in the AP region".</p> <p>Some explanation about the IPBES indicators is required.</p>	We've removed "IPBES"
Kwan-Sung Song (NFP Korea)	Ch.4	65	2976	65	2984	It is necessary to add the contents of conservation efforts related to the Aichi Target 5 (habitat degradation and loss reduction) in the Republic of Korea. (e.g., Conservation efforts related to migratory shorebirds' habitat in Geum River estuary of the Republic of Korea). Republic of Korea has developed a methodology of habitat capacity assessment in 2016 for the migratory shorebird population in the coastal ecosystem to conserve the estuary of Geum River, where is the critical stopover sites for the East Asia-Australasian flyway. Also, the quantitative assessment of habitat capacity 2017-2018 is in progress. Republic of Korea also has contributed to the conservation of habitat for the globally migratory birds through engaging in the Arctic Migratory Bird Initiative operated by the Conservation of Arctic Flora and Fauna under the umbrella of the Arctic Council.	Target 5 has been removed from Chapter 4 as it should be covered by chapter 3.
Tatsuya Horikiri	Ch.4	65	2986	65	2989	It is better to specify what "CBD fifth report" is. Could it be the analysis of "fifth national reports" submitted by CBD parties ?	We've modified to reflect the national reports
Shamik Chakraborty	Ch.4	65	2986	65	2994	For sustainable fisheries see also arguments to conserve traditional ways of fishing: Kenneth Ruddle and Arif Satria (Eds.) Managing coastal and inland waters: Pre-existing aquatic management systems in southeast Asia. Springer: Dordrecht	A reference to Ruddle and Satria has been added

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Margarita N. Lavides	Ch.4	65	2994	65	2994	In general and in this paragraph, the emphasis for fisheries is disproportionately leaning on industrial fisheries. Considering the importance of small scale and subsistence fisheries in majority of the fishing communities in APR, a brief description on this should be included in the context of this paragraph. I have mentioned in previous comments within this Chapter and other Chapters for APR suggested References for small scale fisheries at various scales within APR e.g. papers in Fish and Fisheries, Fisheries Research; papers by Sea Around Us Project by University of British Columbia; papers by Mualil et al; Lavides et al 2016.	A paragraph on small-scale fisheries has been added in the discussion
Shamik Chakraborty	Ch.4	65	2996	65	3004	Same as above in case of agriculture. These are important especially in case of island ecosystems in the APR regions where results of unsustainable LU practices are quickly transported to the coastal systems.	A paragraph on Pacific Island issues has been added
Kwan-Sung Song (NFP Korea)	Ch.4	65	3015	65	3027	It is necessary to add the contents related to the Aichi Target 9 (IAS controlled) in the Republic of Korea. (e.g., Management efforts related to invasive alien species in the Republic of Korea)	A reference has been added
IPBES NFP - Australia	Ch.4	65	3018	66	3027	This concluding statement recommends that a database be produced however, on p16 of this chapter if notes there are in fact databases for IAS for the Pacific Region. Is this recommendation to make these regional databases more like the European system? Noting Australia's stringent border control for IAS you may wish to differentiate Australia from Oceania in general within this statement. The conclusion should be reworded to make this clear. There is a general lack of coverage of how IAS is managed (and the variety of how in this chapter.	We've changed to "Pacific Islands" rather than Oceania
IPBES NFP - Australia	Ch.4	66	3036	66	3036	UNEP, 2016) in associated association with a consolidation of the existing PA network.	This has been modified
Margarita N. Lavides	Ch.4	66	3044	66	3045	Indicate how much percent of total Asian countries (13) have submitted NBSAPs.	Number of NBSAP have been added
Margarita N. Lavides	Ch.4	66	3055	66	3055	Other global databases which include APR should be mentioned and briefly described here, e.g. Fishbase, Reefbase etc. which are readily accessible in the web.	This target has been moved to chapter 3.
Tatsuya Horikiri	Ch.4	66	3057	66	3057	In table 4.4, wikipedia is mentioned as source of evidence for Category nations of CITES. It would be better and more credible to directly consult CITES document available at https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-22-A3-R1.pdf	This target has been moved to chapter 3.
David Bickford	Ch.4	66	3057	68	3058	Table 4. 4 needs RedList as indicator for Aichi Target 12	Target 12 should be covered in chapter 3
Margarita N. Lavides	Ch.4	66	3057	68	3058	Target 6: In the spirit of pluralism as a matter of good practice, the sources of information for Target 6 Sustainable Fishery should not only include FAO. I have mentioned recommended other References within this Chapters and other Chapters e.g. see comments in #95	References have been added to the table
Resit Akcakaya	Ch.4	66	3057	68	3058	Table 4. 4: The Red List Index should be added as an indicator against Aichi Target 12.	Target 12 should be covered in chapter 3
Stuart Butchart	Ch.4	66	3057	68	3058	Table 4. 4: Add a row for Protected area coverage of Key Biodiversity Areas for Target 11 (increasing). See http://www.keybiodiversityareas.org and Brooks et al 2016 https://www.nature.com/articles/sdata20167	A row has been added
Stuart Butchart	Ch.4	66	3057	68	3058	Table 4. 4: Add a row for Red List Index for Target 12 (declining). See http://www.iucnredlist.org/ , Butchart et al 2007 http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0000140 and Brooks et al 2016 https://www.nature.com/articles/sdata20167 .	Target 12 should be covered in chapter 3

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
The Biodiversity Indicators Partnership (BIP)	Ch.4	66	3057	68	3058	Table 4. 4: Yes, for trends. FAO (2016) is available online at http://www.fao.org/3/a-i5555e.pdf	Thank you, the URL has been added.
The Biodiversity Indicators Partnership (BIP)	Ch.4	66	3057	68	3058	Table 4. 4: See PEFC data.xls for PEFC data (attached to email)	Thank you for the spreadsheet. The data on PEFC has been added to the table
NFP of China	Ch.4	67	3057	67	3057	The name of the countries should not be indicated in the form and it is recommended to delete them.	The country names in the table have been removed
Thomas Brooks	Ch.4	67	3057	68	3057	Delete the rows marked "?" for Trends from the table - these don't seem to add any useful information here.	The ? Has been removed and replaced by a blank.
Thomas Brooks	Ch.4	67	3057	68	3057	Against Aichi Target 11, add a row for "Protected area coverage of Key Biodiversity Areas", which is an IPBES "core" indicator (http://www.ipbes.net/sites/default/files/downloads/pdf/ipbes-5-inf-5.pdf , p10). The trend would be a tick (increasing) and the sources https://www.protectedplanet.net/ and http://www.keybiodiversityareas.org/home , presented for the Asia-Pacific region by https://www.nature.com/articles/sdata20167 .	Thank you for the information, the row has been added accordingly
Thomas Brooks	Ch.4	68	3057	68	3057	Add a row for Aichi Target 12, against which add the "Red List Index", which is an IPBES "core" indicator (http://www.ipbes.net/sites/default/files/downloads/pdf/ipbes-5-inf-5.pdf , p10). The trend would be a cross (declining) and the source http://www.iucnredlist.org/ , presented for the Asia-Pacific region by https://www.nature.com/articles/sdata20167 .	Target 12 should be covered in chapter 3
Thomas Brooks	Ch.4	68	3057	68	3057	Good use of the "Proportion of known species assessed through the IUCN Red List". Retain.	Thank you, but this indicator has been moved to chapter 3
Herve Jourdan (IRD) & Roseli Pellens(MNHN)	Ch.4	70	3173	70	3173	Add : Beauvais M-L, Coléno A, & Jourdan H eds (2006) Invasive species in the New Caledonian archipelago - Un risque environnemental et économique majeur. Coll. Expertise Collégiale, IRD Editions, Paris. 259 pp. + CdROM. http://books.openedition.org/irdeditions/7612	Duplicated with cited references
Herve Jourdan (IRD) & Roseli Pellens(MNHN)	Ch.4	75	3433	75	3433	Add : Foucaud, J., Orivel, J., Loiseau, A., Delabie, J. H. C., Jourdan, H., Konghouleux, D., Vonshak, M., Tindo, M., Mercier, J.-L., Fresneau, D., Mikissa, J.-B., McGlynn, T., Mikheyev, A. S., Oettler, J. Estoup, A. 2010. Worldwide invasion by the little fire ant: routes of introduction and eco-evolutionary pathways. <i>Evolutionary Applications</i> 3 (4): 363-374.	Added as suggested.
Herve Jourdan (IRD) & Roseli Pellens(MNHN)	Ch.4	78	3542	78	3542	Add : Héquet V., Le Corre M., Rigault F., Blanfort V. (2009). Les espèces exotiques envahissantes de Nouvelle-Calédonie. Report, IRD Nouméa : 87 pp. http://especies-envahissantes-outramer.fr/pdf/plantes_envahissantes_nouvelle-caledonie.pdf	Added as suggested.
Herve Jourdan (IRD) & Roseli Pellens(MNHN)	Ch.4	78	3647	78	3647	Add : Jourdan H (1997) Threats on Pacific islands: the spread of the Tramp Ant <i>Wasmannia auropunctata</i> (Hymenoptera: Formicidae). <i>Pacific Conservation Biology</i> 3(1):61-64.	Added as suggested.
Herve Jourdan (IRD) & Roseli Pellens(MNHN)	Ch.4	86	3997	86	3997	Add : Paini, D.R., Sheppard, A.W., Cook, D.C., De Barro, P.J., Worner, S.P. and Thomas, M.B., 2016. Global threat to agriculture from invasive species. <i>Proceedings of the National Academy of Sciences</i> , 113(27), pp.7575-7579.	Added as suggested.
Herve Jourdan (IRD) & Roseli Pellens(MNHN)	Ch.4	92	4285	92	4285	Add : Theuerkauf, J., Jourdan, H., Rouys, S., Gula, R., Gajewska, M., Unrug, K., Kuehn, R. 2010. Inventory of alien birds and mammals in the Wallis and Futuna Archipelago. <i>Biological Invasions</i> 12(9): 2975 – 2978	Added as suggested.

Reviewer Name	Chapter / SPM	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response
Herve Jourdan (IRD) & Roseli Pellens(MNHN)	Ch.4	92	4285	92	4285	Add: Theuerkauf, J., Perez, J., Taugamo, A., Niutoua, I., Labrousse, D., Gula, R., Bogdanowicz, W., Jourdan, H., Goarant, C. 2013. Leptospirosis risk increases with changes in species composition of rat populations. Naturwissenschaften 100: 385-388.	Added as suggested.