

Comments from 1st Review Phase of Chapter 3. Deliverable 2b. Americas Assessment on Biodiversity and Ecosystem

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Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Lucía Oralia Almeida Leñero	General Comment				Como se repite mucha información de los biomas y está muy revuelta (sobre todo del Amazonas) en este capítulo y en otros. En unas ocasiones se habla de aspectos culturales e históricos, en otras no.	There was little clarity at the beginning as to what belongs to each Chapter. At the Bonn meeting this was straightened out. In the SOD this should be resolved.
Lucía Oralia Almeida Leñero	General Comment				Se debería de introducir cada bioma (en aspectos biológicos y sociales) y que esa información ya no se repitiera. Así se evitaría que cada vez que se hable del Amazonas se deba de hacer una introducción de él y se pueda ir directo al tema específico a tratar.	Agreed. It has now been decided that the basic information on each biome will be provided by Chapter 1. For the SOD we have explicitly requested all authors to refrain from describing biomes.
Lucía Oralia Almeida Leñero	General Comment				En algunos biomas (freshwater, urban) EUA esta sobrerrepresentado	This is a constant problem we are facing. South America tends to be under-represented. We have asked all authors to do a thorough search of ISI Web of Science to make sure the literature is covered.
Lucía Oralia Almeida Leñero	General Comment				Si cada bioma estuviera dividido en más subsecciones (por ejemplo, que el impacto de ganadería se trate aparte, en otra se hable sobre la riqueza de su diversidad, productividad primaria). Sería más fácil cuando uno busca información, encontrarla y sobre todo saber qué tipo de información está haciendo falta.	This would be preferable, but is impossible - more so now, because in the SOD each biome is limited to 1.5 pages of text due to additional biomes and systems having to be analyzed.

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Lucía Oralia Almeida Leñero	General Comment				Es importante que las estimaciones de biodiversidad (p.e. número de mamíferos, % de endemismo) esté en tablas. Muchas veces está en párrafos y es muy tedioso de leer.	This is probably not possible at the biome level, because of the information is available at a variety of spatial scales. Rarely is there accurate information on a given taxonomic group at the entire biome level.
Lucía Oralia Almeida Leñero	General Comment				Al final de cada bioma debería de ponerse una tabla de conclusiones finales (como el de las flechas verdes-amarillas y rojas del MEA) lo cual sería de gran ayuda para el momento de tomar decisiones.	It was agreed in Bonn that such tables will be produced in the SOD if the information provided for the individual biomes permits.
Lucía Oralia Almeida Leñero	General Comment				Al principio del capítulo se habla un poco de la importancia de hacer un estudio a esta escala continental y se dice que nunca se había hecho algo así. Una conclusión interesante y obvia de este enfoque (pero que nunca lo dicen tal cual) es que los esfuerzos de conservación se deben de hacer de manera conjunta entre los diferentes países dado que las fronteras políticas no son fronteras naturales.	This is a very good point, but belongs more to Chapter 1.
German IPBES Coordination Office and national scientists	General Comment				For each Chapter, a half-Page abstract related to the background, methodology and key findings would be helpful, particularly for new readers.	We will work on a more detailed methodology section to be included in the SOD.
German IPBES Coordination Office and national scientists	General Comment				Some sections in Chapter 3 are addressing general (and or global relevant) aspects that are of (the same) importance to all Regional Assessments - this should be kept as short as necessary. Main focus should be on examples with special relevance for the Americas Regions.	We have asked all our Lead Authors to eliminate statements on general issues

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German IPBES Coordination Office and national scientists	General				Please reflect all contents and outline on Chapter3 in IPBES/3/6/Add. 1 and provide related input and "adress issues realted to under the three Aichi Targets 11,12 and 13) as well as relevant aspects of Aichi Target 14".	We are struggling with this, as we simply do not have the right expertise to address these issues. However, we are sure that it will be possible to say something. In any case, this issue is probably best addressed at the subregional level. In the FOD we are asked to assess at the biome/system level. In the SOD we have now been asked to undertake a subregional assessment. Assessing the Achi targets at this scale should be easier.
German IPBES Coordination Office and national scientists	General				Indicating the three concrete Aichi Targets 11 12 and 13 plus partly 14 will be crucial and of utmost importance to link all the Regional Assessments (including Americas) directly with the upcoming Global Assessment under IPBES and the the planned GBO5 under CBD. So we would like to encourage the authors to quote relevant Aichi Targets linked with concrete issues and findings.	See previous answer.
German IPBES Coordination Office and national scientists	General				Important hints concerning knowledge gaps are of utmost importance and the authors are therefore encouraged to outline major knowledge gaps more clearly with the end to include them in the upcoming SPM, in terms of capacity building needs and/or research needs at the regional/subregional and national levels. The authors are also encouraged to outline major regional discrepancy in available knowledge and knowledge gaps more clearly as their identification and classification are necessary contributions to support decisions, conservation and for ongoing and future assessments.	We couldn't agree more. The new outline for the SOD now contains a section on knowledge gaps.
German IPBES Coordination Office and national scientists	General				Please select certain relevant key messages for the upcoming SPM and add uncertainty statements or qualitative confidence levels to all of them to ensure the credibility of the assessment.	The key messages will be selected once we attend to the major changes that were requested in Bonn.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
German IPBES Coordination Office and national scientists	General				We greatly appreciate the well structured approach to choose the biomes most relevant for the Americas (see also Chapter 1, Line 536, Table 1) which are investigated and referred to in detail in all 6 Chapters. Please ensure that an order once agreed upon (which might be the one in Chapter 1, cited above) is maintained, as in the current sections of the document the order is very often mixed up and might complicate conclusions concerning certain biomes.	We thank the reviewer for pointing this out. We will make sure the order corresponds with that in Chapter 1.
German IPBES Coordination Office and national scientists	General				With reference to challenges and concerns on Islands we would like to suggest to include some more of the broad research results concerning Galapagos Islands (which until now are missing in nearly all of the Chapters), as it is not only of historical importance for global biological research but certainly might be one of the most investigated regions on earth, with a great amount of crucial findings concerning biological, socio-ecological and socio-economic perspectives. Channel Islands of California though might be an example representing North America.	We will certainly endeavour to include major islands. Of course, there are many more, such as the Juan Fernández Islands, Easter Islands, Hawaii.
German IPBES Coordination Office and national scientists	General				One of the most exemplary cases of migration throughout Americas (North- to Mesoamericas) is that of the monarch butterfly ( <i>Danaus plexippus</i> ), which is not mentioned in any of the current Chapters. We would like to suggest reporting research results on this species, as this could serve as a Case Study, especially on some transboundary aspects and relationships of different biomes and threats.	Information will be reviewed and included as a key finding, if warranted.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
German IPBES Coordination Office and national scientists	General				The recently published WWF Amazonas Report 2016 might be considered as it offers some new findings and provides many relevant publications. The report draws heavily on research carried out by academics, independent researchers and other NGOs. More than 300 key references and notes are given. (see: <a href="http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_living_amazon_report_2016_mid_res_spreads_1.pdf">http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_living_amazon_report_2016_mid_res_spreads_1.pdf</a> ).	We thank the reviewer for alerting us to this reference. We have passed it on to the Lead Author who will be writing the section on wet tropical forests. We hasten to point out, that there will no longer be a separate section on Amazonia, as the new structure requested in Bonn requires that section to be expanded to include all wet tropical forests, upland and lowland. Thus any additions will necessarily have to be very synthetic.
German IPBES Coordination Office and national scientists	General				The issue of afforestation might be discussed not only concerning its impacts on grassland (see Chapter 3.4.2.1) as it is one major fact of land use change. Concerning biodiversity and ecosystem services definitions of "forest" have huge impact on conclusions and evidence (e.g. monocultural and planted forests are inconsistent to biodiversity richness and secondary forests have other impacts on biodiversity than primary forests). Furthermore different effects and impacts concerning afforestation with native versus non-native trees should be discussed.	We have been requested not to directly talk about drivers in the Chapter 3 - only as cause of biodiversity loss.
German IPBES Coordination Office and national scientists	General				The status and trends section provides imbalanced information on taxa. Please try to fill gaps to provide a complete picture.	We are very aware of this. The main problem is that trends are rarely given at the biome level, and often the relevant research is at a spatial scale that does not tell us very much for the entire biome.
CONABIO	General				Este capítulo cuenta con casi 170 páginas; es necesario hacer una selección para recortar información redundante y dejar solamente datos y ejemplos relevantes para la región.	It has been agreed that all information of ecosystem services and descriptions of biomes will be eliminated.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
CONABIO	General				Se habla poco de tendencias a lo largo del capítulo. Se hace mucho más énfasis en el estado actual de la biodiversidad y servicios ecosistémicos (SE); pero no se muestran los cambios que estos han tenido en el tiempo. Consideramos crucial que en este capítulo se incluyan datos que permitan hacer un análisis de las tendencias para poder relacionarlas con diversos impulsores de cambio, sobretodo antropogénicos.	We are very aware of this. The main problem is that trends are rarely given at the biome level, and often the relevant research is at a spatial scale that does not tell us very much for the entire biome.
CONABIO	General				Hay información en este capítulo que se repite en el Capítulo 5. Se debe evitar duplicar e incluirla sólo donde es más relevante.	We are aware of this, and are in the process of getting rid of duplicate information.
Marina Rosales Benites de Franco	General				General comments: This chapter has huge good information, but it is necessary give more order and better understanding. A suggestion could be consider more trends on Nort America, Mesoamerica, The Caribbean and South America as a each subregion. Please, consider land change and overexplotation status, trends and dinamics.	Originally, we were requested only to work at the biome level. In the Bonn meeting, IPBES requested that the Americas now includes a Subregional analysis. We hope this will provide an opportunity to give more order to the chapter.
Carlos A. Joly	General				The experts of Chapter 3 made a tremendous job in producing, in such a short time, such a good first draft of the Americas Assessment. Nevertheless it is necessary to recognize that the group does not have experts in some extremely important areas/themes. Specifically there are huge gaps such as: the Carribbean is seldom mentioned in the 180 pages; marine and coastal areas (in my opinion they NEED to incorporate an expert with this knowledge; freshwater environments (again I think the need an expert); the Brazilian Cerrado (a biodiversity hotspot and where extremely important land use changes are taking place; wetlands other than the Great Lakes Region; Mountains other than the Andes. Below I make some specific comments in points where changes are needed to reduce the unbalanced treatment eiven to specific Unit of Analvses.	Now that all biomes need to be addressed, the gaps pointed out by the reviewer will be attended to. However, it should be pointed that due to the very large number of biomes in the Americas, including mirror image biomes on either side of the equator, the treatments for each biome will have to be greatly reduced, each to 1.5 pages.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Alejandra Volpedo	7	31	76	31	general comments: The document is unbalanced in relation to the contents of North America, Central America and South America. Central America and South America that are areas of high biodiversity there is very general and it is limited. There is also an imbalance between the services in the terrestrial ecosystem in relation to aquatic ecosystems, the same are limited	We are working on incorporating more aquatic experts. The reviewer is correct regarding the imbalance. The reason lies in the biomes that we were asked to treat. Now, that a major change has been requested, with all biomes to be included, it should be possible to address this problem.
Miriam Alfi	7	52	7	57	Since the introduction can be seen a tendency to describe biodiversity and ecosystems from a perspectiva of the exact sciences, there is little reference to the social sciences and especially the importance of the relationship between man and nature.	The new outline of Chapter 3 has a separate section on Biocultural biodiversity.
Lucía Oralia Almeida Leñero	7	49	8	79	A map of America would be really usefull in this section	The map will be provided in Chapter 1.
Carlos A. Joly	7	43	7	43	Subantartic should start with a Capital letter	Will be corrected.
Garry Pierzynski	7	47	7	47	Coastlines are measured in units of km, not km2	Our slip.
German IPBES Coordination Office and national scientists	7	33	8	117	Very good and inspiring introduction.	Thank you for the encouraging remarks.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Jens Mutke	7	39	7	41	<p>It should be mentioned as well that still a large part of (Latin) American biodiversity has to be discovered. Thomas (1999 in Biodiv. and Conservation 8) estimated that c. 25% of the Neotropical flora (&gt;22,000 species) still remains to be described by scientist. For Mexico Dirzo &amp; Gómez (1996 Ann Missouri Bot Garden 83) estimated that 20% of the total floristic richness was yet unknown (compare as well Villaseñor &amp; Ortiz (2014 Revista Mexicana de Biodiversidad). Even though a number of checklists of known species have been published during the last years (Cono Sur, Brazil, Colombia etc), there are still hundreds of new species described every year. Compare as well Govaerts (2001 in Taxon 50), Forzza et al. (2012 Bioscience 39), Engemann et al. (2015 Ecol.Evol.), or Meyer et al. (2016 Ecology Letters: biases, gaps and uncertainties in global plant occurrence information). Probably a large part of the &gt;2000 new plant species described annually on a global scale belong to Latin America (compare, e.g., IISE 2011 'State of observed species' or Mutke &amp; Barthlott 2005 in Biol. Skrift 55). E.g. for Mosses, we showed that many Latin American regions have much lower documented species richness figures as predicted (Mutke &amp; Geffert 2010 Tropical Bryology 31, Geffert et al. Journal of Bryology 35(1)). The situation for many groups of animals might be similar or even worth - at least for invertebrates</p>	
Jens Mutke	7	39	7	40	<p>Vincent et al. (2013 Biol. Cons. 167) show the tropical Andes as one of the global centres of Crop wild relatives</p>	<p>Could not agree more. The post-Bonn outline of the chapter now has a section on knowledge gaps. Thank your for pointing to the references. The information will be included either in the alpine section or in the biocultural biodiversity section.</p>



Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Jens Mutke	7	39	7	40	You might add Kier et al. 2009 in PNAS as a reference for the outstanding biodiversity of the Americas. This analysis combines species richness and endemism of plants and vertebrates at a global scale. It highlights a number of New World regions in the list of the global top 20 regions regarding plant endemism richness (compare Fig. S1.: e.g. Caribbean Islands, Northern Andes, South American Atlantic Coastal Forests, West-Ecuador/Choco, Peruvian/Bolivian Yungas)	Thank you for pointing to the reference.
Jens Mutke	7	55	7	56	For North America you could refer to the very nice overview given in Vol.1 of the Flora of North America.	Thank you for pointing to the reference.
Jens Mutke	7	73	7	74	Important, even though somewhat older references for Neotropical plant diversity (especially of the northern Andes) are A.H. Gentry 1982&1988 in Annals of the Missouri Botanical Gardens	Thank you for pointing to the reference.
Miriam Alfi	8	97	8	99	I suggest you can work with the concept of socio-ecological systems that analyze complex dynamics between society and environment	We will take this into account and in relation to the IPBES conceptual framework.
Lucía Oralia Almeida Leñero	8	105	8	105	Even the densest areas of the Amazon have had a certain degree of human manipulation. Is pristine a valid term? Primary forest	Good point.
Carlos A. Joly	8	80	8	84	The phrase should start with "The majority of authors believe that humans... Because there is some controversy about when and how men arrived in the Americas	Will be emmended in the SOD.
German IPBES Coordination Office and national scientists	8	110	8	112	Please provide references to the recently published IPBES results concernig Deliverable 3a (Thematic assessment of pollinators, pollination and food production). We would like to encourage authors to include findings (concerning Americas) for future development of this Chapter.	Will do.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
German IPBES Coordination Office and national scientists	8	118	23	38	Many sections here are addressing general (and or global relevant) aspects and definitions that are of (the same) importance to all Regional Assessments - this should be kept as short as necessary. Main focus should be on examples with special relevance for the Americas Regions.	We have asked all our Lead Authors to eliminate statements on general issues.
Jens Mutke	8	97	8	98	According to the 2015 UN population data, the Americas are home to c. 992 million people (634.4 million in Latin America and the Caribbean and 357.8 million in North America): <a href="https://esa.un.org/unpd/wpp/Download/Standard/Population/">https://esa.un.org/unpd/wpp/Download/Standard/Population/</a> United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision, DVD Edition.	We have been told that the IPBES support unit will provide standardized data on population figures, etc.
Alejandra Volpedo	9	124	149	131	The Fig 3,1,1 is not clear.	This figure will be moved to Chapter 1.
sandra LUQUE	9	figure 3 9			Format problems - not suited	This figure will be moved to Chapter 1
Sandra Díaz	9	131		132	Indeed better placed in Chapter 1. Also some of the symbols, etc. do not display well, therefore the message is difficult to follow.	This figure will be moved to Chapter 1.
Sally Valdes	10	163	10	176	Did you Review USGS information? Although their title suggests a geological emphasis they are also the biological research arm for the Department of the Interior.	Will consult.
Thomas Brooks (IUCN)	10	164	10	176	Good. Add citations or URLs for each of these key sources listed here.	Will be done.
Sandra Díaz	10	150			Fig. 3.1-2. This is a nice figure, but the framework and emphasis is a bit different in IPBES, and 16 years after this publication. If this particular framework is the one of choice by the authors, can it be somehow papped onto the IPBES CF, or compared to it, so that it does not appear as a completely separate/parallel framework?	We will remove the figure to avoid confusion.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Bruno Paris	11		51		<p>General comment for Section 3.3. Overview of status and trends of biomes at a broad scale: The report "Canadian Biodiversity: Ecosystem Status and Trends 2010" (<a href="http://www.biodivcanada.ca/default.asp?lang=En&amp;n=83A35E06-1">http://www.biodivcanada.ca/default.asp?lang=En&amp;n=83A35E06-1</a> ) and related technical reports (see at: <a href="http://www.biodivcanada.ca/default.asp?lang=En&amp;n=137E1147-1">http://www.biodivcanada.ca/default.asp?lang=En&amp;n=137E1147-1</a> ) contain a lot of information regarding the status of ecosystems. The only references to the report in the Americas Assessment are in section 3.3.4.5 Marine/Deepwater/Offshore system trends. Should the authors like to include more information (in this chapter or in section 3.4 In-depth biome analysis or other sections) related to the situation in Canada, this is a good source.</p>	We thank the reviewer for pointing to the reference.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Sally Valdes	11	190	11	200	<p>Freshwater mussels diversity is highest in Northern America See Title: Conservation status of the freshwater mussels of the United States and Canada</p> <p>Author: Williams, James D.; Warren, Melvin L.; Cummings, Kevin S.; Harris, John L.; Neves, Richard J.;</p> <p>Date: 1992</p> <p>Source: Fisheries, Vol. 18(9), p. 6-22</p> <p>Publication Series: Miscellaneous Publication</p> <p>Description: The American Fisheries Society (AFS) herein provides a list of all native freshwater mussels (families Margaritiferidae and Unionidae) in the United States and Canada. This report also provides state and provincial distributions; a comprehensive review of the conservation status of all taxa; and references on biology, conservation, and distribution of freshwater mussels. The list includes 297 native freshwater mussels, of which 213 taxa (71.7%) are considered endangered, threatened, or of special concern. Twenty-one taxa (7.1%) are listed as endangered but possibly extinct, 77 (20.6%) as endangered but extant, 43 (14.5%) as threatened, 72 (24.2%) as of special concern, 14 (4.7%) as undetermined, and only 70 (23.6%) as currently stable. The primary reasons for the decline of freshwater mussels are habitat destruction from dams, channel modification, siltation, and the introduction of</p>	
Carlos A. Joly	11	201			<p>It should include a paragraph about richness patterns of marine areas</p>	<p>Thank you for pointing to the reference. There will be a section on marine biodiversity in the SOD.</p>

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Thomas Brooks (IUCN)	11	189	12	206	The primary citation for the amphibian species richness should be used: Stuart et al. (2004) Science. In addition, equivalent maps are available for mammals (Schipper et al. 2008 Science), and for various other taxonomic groups (see citations in Brooks et al. 2016 Scientific Data ( <a href="http://www.nature.com/articles/sdata20167">http://www.nature.com/articles/sdata20167</a> ). What is the original source for the bird richness map? This should be cited, too. More generally, how useful are species richness maps, anyway? - maybe more useful to map, e.g. betadiversity (see McKnight et al. 2007 PLoS Biology <a href="http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.0050272">http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.0050272</a> ).	Will attend to.
Jens Mutke	11	180	11	183	For this general statement some of the already published and highly cited sources for plants should be included: Barthlott et al. (2005, compare page 7 line 40: vascular plants at global scale), Kier et al. (2009 PNAS: Endemism Richness Plants + Vertebrates at global scale), Kier et al. (2005 J Biog: plant species per WWF Ecoregions at global scale) Kreft et al. (2010 Ecography: Ferns at global scale), von Konrat et al (2008 Fieldiana Botany: Liverworts at global scale), Geffert et al. (2013 J. Bryology: Mosses at global scale); In addition: Engemann et al. (2015 Bot J Lin Soc 180(2): comparing diversity patterns of different plant growth forms); Meyer et al. (2016 Ecology Letters discusses biases, gaps and uncertainties in global plant occurrence information)	We thank the reviewer for the list of references. If space allows, they will be included.
Jens Mutke	11	190	11	190	Compare Fig. 1b in Gaston (2000 Nature) for Latitudinal richness pattern for New world Birds and the quite similar pattern for plants in Fig. 6 in Mutke & Barthlott (2005 Biol. Skrift 55)	Will consult and include if possible.
Jens Mutke	11	194	11	194	Kreft & Jetz 2007 show *modelled* species richness based on a dataset used for the earlier Barthlott et al. 2005 plant diversity map.	Will consult and include if possible.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Jens Mutke	11	194	11	194	Kier et al. (2009 in PNAS) showed that the Northern Andes are global scale centers of endemism richness of plants and vertebrates	Will consult and definitely include, always that the data is separated at the biome level. If not, will use in the new subregional analysis.
Jens Mutke	11	184	11	188	You might add: Especially for groups where detailed distribution data for all individual species is scarce, diversity analyses can be based on overall species richness information taken, e.g., from several hundreds of local to regional checklists and floras (e.g. Barthlott et al. 2005).	Agreed. It has now been decided that the basic information on each biome will be provided by Chapter 1. For the SOD we have explicitly requested all authors to refrain from describing biomes.
Jens Mutke	11	200	11	200	For the Cactaceae, probably the plant family with best degree of documentation, Barthlott et al. (2015 in Schumannia) analysed overall diversity patterns. This analysis highlights the important biodiversity of many dry habitats with important diversity centers in the Mexican Chihuahua desert, the southern Central Andes in Bolivia, and the Brazilian Caatinga, but as well many restricted range species in the northern Peruvian Andes.	Due to changes requested for the Americas's assessment there will now be a chapter on drylands. The information on Cactaceae is very relevant.
Garry Pierzynski	12	202	12	206	The legends are either missing entirely or missing units in Figure 3.3.1-1. It would be nice if the color scheme used in each sub-figure was the same.	In the FOD maps and figures were done individually. There will come a time when everything will be uniformized.
Jens Mutke	12	184	12	206	Even though the BIEN dataset (Enquist et al) has much potential for in depth analyses of new world plant diversity (e.g. for Fig. 3.3.1.2 or e.g. Engemann et al 2015 in Bot J Linn Soc), it still has some issues of spatial sampling bias. Thus, I would recommend for the Fig. 3.3.1.1 to use the Barthlott et al. 2005 plant diversity map, which is cited in the main text of '3.1. Introduction', as well. A second option would be to use ecoregion based species numbers, which are available for all groups of organisms shown in Fig 3.3.1.1, as well.	We really do not have space to go into an indepth discussion of the the pros and cons of data sets. However, we will bear this point in mind. LA Nathan Kraft is working directly with the data and will be able to justify its use at a later time.
Garry Pierzynski	15	237	15	241	The legend on this figure is incomplete. There are solid fills of different colors and sizes in gray circles of different sizes and the meaning of the scheme is not clear.	We be attended to.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Thomas Brooks (IUCN)	15	237	16	243	These Figures 3.3.1-3 and 3.3.1-4 seem to be about nature's benefits to people, and so maybe should be moved to Chapter 2?	Chapter 3 is charged with dealing with the role of biodiversity in ecosystem services. We believe the figure is appropriate.
Sandra Díaz	16	Figs. 1 and 2			Nice idea. However, these figures will need more detailed labels (as well as sharper graphical resolution). For example, colours might be considered; also list sources. Finally, although a NBP and its values are different things, both highly relevant to the assessment, the last column to the right of Fig. 2 adds little information (e.g. listing "the value of swimming" does not really add much to the column "swimming". Perhaps if the authors could say a bit more of what kinds of values, it would be more useful.	We have removed this figure because it is addressed at the global scale. We are working on revised text and an associated figure.
Miriam Alfi	17	245	8	260	In my opinion it is necessary to include the term socio-ecological system "SSE" (Berkes and Folke, 1998) is used to refer to a holistic, systemic and inclusive of "human-in-the nature" concept. Therefore it is understood as a complex adaptive system in which different cultural, political, social, economic, ecological, technological, etc. components they are interacting (Resilience Alliance, 2010). This implies that the approach to the management of ecosystems and natural resources, does not focus on system components but in their relationships, interactions and feedbacks. The base frame of the SSE lies in the assumption that social and ecological systems are closely connected and therefore delineating its borders and the exclusive delimitation of an ecosystem or social system, it is artificial and arbitrary.	We thank the reviewer for the observations. We have been asked to adhere to the IPBES framework. Will see if some of the concepts mentioned by the reviewer mesh.
Lucía Oralia Almeida Leñero	17	263	17	266	Studies report that some indigenous communities have given at least 1/3 of the plants that surround them an ethnobotanical use	We thank the reviewer for the comment. If the reference could be sent, it would be most useful

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Sandra Díaz	17	245	17	247	<p>Please note that definitions of functional diversity by e.g. Gaston and Díaz &amp; Cabido are different. Díaz &amp; Cabido pioneered the sensu lato definition of functional diversity as the value, range, distribution and relative abundance of the functional traits of the organisms present in an ecosystem or biota. Díaz et al. 2007 PNAS further unpacked its three major components related roughly with the variety or range of trait values, most abundant trait values, and the presence of particular species or groups. This is the definition taken by further work, e.g. Mace et al. various recent papers, Newbold et al. The Gaston, Petchey et. definition, while of course correct, refers only to the variety or range component (the most analogous to species richness). This is important for the sake of clarity. Also because works by Díaz et al. state that functional diversity (in the broad sense) underpins most nature's benefits to people (which is different than saying that functional variety does it; a number of NBP are not really correlated with variety, they are much more associated to the traits of the most abundant species (mass ratio model) or very often to the presence of particular species, even if they do not account for most of the biomass in the community (as illustrated by Díaz et al. 2006, included in this chapter as Table 3.3.1-1).</p>	<p>We have not address this issue yet, and it is probably worth Nathan Kraft and Jeannine Cavender-Bares discussing the issue directly with Sandra Diaz.</p>
Sandra Díaz	18	277			<p>Table 3.3.1-1 (from Díaz et al. 2006) was meant to be very generic. There is little point in reproducing it verbatim here, unless it is further tailored to the region, e.g. with concrete regional examples of each of the rows.</p>	<p>The table will be removed.</p>
Alejandra Volpedo	19	280	291	280	<p>Table 3.3.1.2. Include in services regulation, flood control, the decline of coastal erosion and the decline of the penetration of the saline wedge</p>	<p>We have been specifically asked not to talk about ecosystems services now, as this will be done in Chapter 2. Accordingly, this table will be removed.</p>



Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Garry Pierzynski	19	280	19	280	The reason for the use of color in the right most columns in this table is not evident.	The table will be removed because it is not relevant with the new structure of the chapter.
Sandra Díaz	19				Table 1. As with Table 3.3.1-1, there is little added value in reproducing it from the original article. Suggest also in this case to give some regional specificity.	The table will be removed because it is not relevant with the new structure of the chapter.
Sandra Díaz	19	282	20	313	Good discussion, but the literature is more mixed on whether indeed the variety component (richness however measured, species or attributes), is the causal driver of a number of ecosystem processes and derived benefits; even Cardinale et al. show a nuanced view in this respect, especially for a wide range of NBP and considering real ecosystems. The chapter should somehow reflect the mixed evidence a bit better. The present wording seems to attach a "well-established" status to the statement "variety is good for NBP". Whether we like it or not, the state of the art is probably closer to "unresolved" (plenty of empirical evidence, but not necessarily with strong agreement, depending on NBP in question, and scale (and even researcher!)).	We will endeavor to give a more balanced account. We have not yet addressed the issue in the FOD+, however.
Thomas Brooks (IUCN)	20	299	20	299	This Figure 3.3.1-5 seems to belong to Chapter 2 of the ECA assessment.	The figure will be removed.
Miriam Alfi	21	323	21	333	The theme of the scales is fundamental to the understanding of these issues. Nothing in the text clarity on this point. Sometimes you speak of North America, others refer to specific countries and finally use terms like ecoregion. In my opinion it should reach an agreement on the scale used.	This is a very difficult issue, because the data is not always available at the same scale. In any case, the new chapter outline includes a subregional analysis.
Lucía Oralia Almeida Leñero	21	319	21	328	In this section it should be included the cultural importance of domesticated diversity of plants as well as its importance for genetic crop conservation. Also the fact that a more policultures also promote a more diverse diet which has several health benefits.	The new chapter outline contains a section on biocultural diversity.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Sandra Díaz	21	317			Agroecology. After Altieri 1999 there has been a lot of literature on the topic, including experiemntal and meta-analyses. Considering the importance of the topic in the region, in particular when it comes to agricultural policies and clash of socio-economic models of agriculture, this merits a more detailed and updated treatment. What does the latest evidence (experiments and reviews) say? What is the scoep, in terms	We agree the scope needs to be revised. We have not yet done so in the FOD+ but will attempt to address the issue in the SOD.
Miriam Alfi	22	373	22	379	A concept that could be useful for decision-making is environmental governance. This is to involve stakeholders in the discussion and participation decisions which may lead to consensus and agreement. While it is important to conduct studies count in natura, it is essential to consider the participation of social actors as generators of change.	Agreed, but this really is more appropriate in another chapter where governance issues will be discussed.
Garry Pierzynski	22	355	22	370	It would be useful to mention the concept of sustainable intensification here as well.	This is a bit far from what Chapter 3 is supposed to address.
Sandra Díaz	22	355	22	379	This is not specific to the region. Any way to tailor it a bit mmore?	We will work to make the links to the Region.
Sally Valdes	23	381	23	381	Glad to see that arthropods and fish will be added . These are too important to leave out.	Agreed. It has now been decided that the basic information on each biome will be provided by Chapter 1. For the SOD we have explicitly requested all authors to refrain from describing biomes.
Carlos A. Joly	23	383	23		Insert a new Item Restauration - and connect with the Land Degradation - Restauration Assessment	Will include restoration.
German IPBES Coordination Office and national scientists	23	304	114	3057	Chapters are well written with good literature reviews and new insights from literature. Main focus mostly is on examples with special relevance for the Americas Regions. Please ensure that the order on biomes (once agreed upon - which might be the one in Chapter 1), is maintained, as in the fromer and current sections of the document the order is very often mixed up and might complicate conclusions concerning certain biomes.	We will attend to this.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
German IPBES Coordination Office and national scientists	23	304	114	3057	Special focus on invasive species is greatly appreciated. For reference to national and international strategies on IAS and for better knowledge sharing see EU strategies and legislation <a href="http://ec.europa.eu/environment/nature/invasivealien/index_en.htm">http://ec.europa.eu/environment/nature/invasivealien/index_en.htm</a> ).	Thank you for the interesting reference, but it appears to be more focussed on another IPBES region.
Carlos A. Joly	24	Table 3.24			Among the Land Cover Classes include RESTORED AREAS - in Brazil for instance, considering only the Pacto da Mata Atlântica initiative we have already 86.332 ha <a href="http://www.pactomataatlantica.org.br/">http://www.pactomataatlantica.org.br/</a>	Will attend to.
sandra LUQUE	26	440		441	use updated information like the interactive forest watch map with updated data up to 2014 and FRA 2015	Will attend to.
CONABIO	26	Table 3.3.2-3			Pág. 26 - La Tabla 3.3.2-3 de Global Forest Watch (2000) está desactualizada, y se incluye a México como Norteamérica (es necesario homologar clasificaciones a lo largo de la evaluación, o explicar por qué en algunos casos se usan otras clasificaciones). Es necesario sustituir la información que se presenta en esta tabla por otra más reciente, para lo cual se sugiere considerar <a href="http://www.globalforestwatch.org">www.globalforestwatch.org</a> para referirse a tendencias actuales de deforestación.	We will check this out.
Miriam Alfi	27	456	27	501	A relevant study is the Environmental Atlas North (Blue-Carbon 2014) America, where several scientists locate areas of marsh, mangrove and seagrass of all environmental region of North America with the intention of placing the importance of these bodies as blue carbon sinks (CEC, 2014). It is known that blue carbon sinks are responsible for more than 50%, maybe even 71% of all carbon storage found in the ocean habitats with vegetation, including mangroves, salt marshes and seagrasses, they represent only 0.05% of the plant biomass on land, but store a comparable amount of carbon per year, why are among the most intense carbon sinks on the planet (Nelleman and et.al.. 2009).	This will be looked into in the new version.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Sally Valdes	27	496	27	508	There was a report on this topic some years back. It was entitled Endangered Ecosystems: A Status Report on America's Vanishing Habitat and Wildlife. Its authors were Reed Noss and Robert Peters. It was published in 1995 by the Defenders of Wildlife. It can be found at <a href="http://www.k-state.edu/witlab/consbiol/endangereco.pdf">http://www.k-state.edu/witlab/consbiol/endangereco.pdf</a>	We thank the reviewer for alerting us to this reference.
Thomas Brooks (IUCN)	27	488	27	490	Actual citation is Mittermeier et al. (2004) Hotspots Revisited. CEMEX.	Will use the newer citation.
Thomas Brooks (IUCN)	27	490	27	491	Also cite Mittermeier et al. (2003) PNAS.	Will consult.
Lucía Oralia Almeida Leñero	28	509	28	510	The main cause of ecosystem degradation is transformation of landscape and habitat degradation. But what are the drives that cause these? Is it only a matter of population density or there more powers and interests involved?	Ecosystem degradation will be treated in Chapter 4. However, if ecosystem degradation is a cause of biodiversity loss, it will be considered.
Thomas Brooks (IUCN)	28	515	28	534	This section on extinction risk facing species in the Americas is very important. It would be wise to cite the latest Red List data ( <a href="http://www.iucnredlist.org">www.iucnredlist.org</a> ). Considerable additional important material could be included here - for a template of how this might be done, see the IPBES ECA assessment, Ch 3, Lines 328-338 and Lines 3206-3304. IUCN stands ready to help with synthesis or interpretation if useful: please feel free to contact me directly ( <a href="mailto:t.brooks@iucn.org">t.brooks@iucn.org</a> ) if so.	We greatly appreciate the offer to help.
Jens Mutke	28	518	28	518	add: 'and more than 90,000 species of land plants' (as source either the 1997 IUCN & WWF Centres of plant diversity, VOL.3; or any of the recent BIEN papers: Enquist et al 2009, Lamanna et al. 2015 PNAS, Engemann et al 2015 Bot J Linn Soc etc.)	Will do.
Thomas Brooks (IUCN)	29	535	29	535	Change "priority" to "important"	Will do.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Thomas Brooks (IUCN)	29	444	29	445	Again, this paragraph is good, but quite a lot more important information could be drawn in here. For a template of how this might be done, see the IPBES ECA assessment, Ch 3, Lines 151-157 and Lines 2562-2616. IUCN stands ready to help with synthesis or interpretation if useful: please feel free to contact me directly (t.brooks@iucn.org) if so.	We are very grateful for the offer to help
Thomas Brooks (IUCN)	29	557	30	582	This section on extinction risk facing species in the Americas is very important. It would be wise to cite the latest Red List data (www.iucnredlist.org). Considerable additional important material could be included here - for a template of how this might be done, see the IPBES ECA assessment, Ch 3, Lines 328-338 and Lines 3206-3304. IUCN stands ready to help with synthesis or interpretation if useful: please feel free to contact me directly (t.brooks@iucn.org) if so.	We are very grateful for the offer to help.
Jens Mutke	29	537	29	537	You might add: 'Especially regions with a high environmental diversity or steep environmental gradients, such as the tropical Andes, house a high number of restricted range species. For example, almost 50% of all species of Cactaceae have distribution ranges of less than 10,000 km <sup>2</sup> (Barthlott et al. 2015 Schumannia).'	We will be looking into this reference, as indicated earlier.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Miriam Alfi	31	607	32	667	Mangrove loss due to urbanization and hotel infrastructure for tourism, searching for wood products and therefore logging, solid waste disposal in those areas and aquaculture [construction of ponds for shrimp production] (Anthony and Gratiot 2012). All these ecosystems provide essential nutrients and maintain critical habitats [for example, feeding and spawning areas, breeding areas and migratory routes] for a wide variety of marine life. Most studies on oceans and mangroves that have sponsored from the CEC have been developed by the Network of Marine Protected Areas in North America (NAMPAN) that is constituted in 2002. These works include important contributions to cartography, conservation species, carbon sequestration and exploration of multiple marine ecoregions in the region	
Sally Valdes	31	617	31	617	Brown pelicans populations have rebounded so they may not be the best example. Were taken off the U.S endangered species list in 2009. In some areas (for example, Texas) have exceeded historical populations. See	Will refer to in the appropriate section. We thank the reviewer for pointing to this example.
Royal Gardner	31	635	31	638	With respect to global wetland losses, the statistics should be consistent with the LDR assessment, which cited to Davidson (2014).	Will take this point into account.
Carlos A. Joly	31	606			There are instead of There area	Will be fixed.
Carlos A. Joly	31	627			that is repeated in the middle of the phrase	Will be fixed.
Carlos A. Joly	31	634	31	637	It is presenting data on Salt Marshes and Mangroves but then suddenly in line 635 it refers to wetlands. The 50% of salt marshes remain or 50% of wetlands remain? .... or has never been part of continent, its biological....	The context will be revised. Will be fixed.
Carlos A. Joly	32	693			Changed Rio de la Plata for La Plata Basin (this basin included Prana River, Uruguay River and Paraguay river). The rio de la Plata is the final section of La Plata Basin.	Thanks for pointing this out.
Alejandra Volpedo	33	694	736	723	Thespesia populnea should be in italics	Indeed.
Carlos A. Joly	33	714			I am not familiar with the concept of "virtual water". Please explain in text.	In reality this belongs more to Chapter 2 and will be removed there.
Sally Valdes	34	751	34	751		

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Sally Valdes	35	815	35	818	Department of the Interior's Bureau of Ocean Energy Management has a large collection of scientific reports can provide information about deep sea habitats. Finished reports can be found at <a href="http://www.boem.gov/Environmental-Studies-EnvData/">http://www.boem.gov/Environmental-Studies-EnvData/</a> . Ongoing studies are listed at <a href="http://www.boem.gov/Environmental-Stewardship/Environmental-Studies/Research-Regions.aspx">http://www.boem.gov/Environmental-Stewardship/Environmental-Studies/Research-Regions.aspx</a> Example includes a study of deep canyons in the Atlantic (see <a href="http://www.boem.gov/press02042016/">http://www.boem.gov/press02042016/</a> )	
Alejandra Volpedo	36	827	872	858	All the examples are from North America. Renting include those of South America, both in marine and freshwater fisheries	We appreciate these references. A small amount of information has now been added for South America. We are still struggling to access data for South America equivalent to what is available for North America.
Sally Valdes	37	873	37	883	The Marine Mammals Protection Act also provides protection to walruses, polar bears and manatees. May want to include their status in this section. For example, the polar bear has been listed as threatened under the US Endangered Species Act primarily because of issues related to climate change.	Will do.
Sally Valdes	37	899	37	901	Other corals found in the Americas has also been listed by the U.S. by the National Marine Fisheries Service of NOAA. These include the lobed star coral, boulder star coral, mountainous star coral, pillar oral and rough cactus coral. See 79 FR 67356 67359, 11/13/2014. Adding 20 Coral Species to the List of Endangered and Threatened Wildlife.	Will pass this information on to the expert.
Carlos A. Joly	37	908			Remove the brackets from the star of the phrase The consequences.....	Will do,
Sandra Díaz	37	873	37	883	Suggest contacting Mariano Sironi and team (Universidad Nacional de Cordoba) for data on cetaceans in South American seas.	We thank the reviewer for this contact.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Sally Valdes	39	934	39	945	For diadromous fish improvements to fish passage between freshwater and marine systems is likely to have improved some populations.	Will try to incorporate.
Carlos A. Joly	39	935			Start with In North America there have been..... Because in the other subregions that is not the case	Will attend to.
Sandra Díaz	39	970			surely not all ecosystem services decline; presumably food or fuel production increase with land use intensity; qualify.	We have been informed that Chapter 3 will not be assessing ecosystem services. This will be done by Chapter 2.
Carlos A. Joly	45	1025	46	1038	There should be a cross reference with IPBES Assessment on Pollination, Pollinators and Food Production	Will do.
Garry Pierzynski	45	1013	45	1013	This figure is very hard to interpret	We consider this to be an important figure and will try to find a way to make it clearer.
German IPBES Coordination Office and national scientists	45	1025	46	1038	Please provide references to the recently published IPBES results concerning Deliverable 3a (Thematic assessment of pollinators, pollination and food production). We would like to encourage authors to include findings (concerning Americas) for future development of this Chapter.	Will do.
Jens Mutke	45	1013	45	1018	I find Figure 3.3.4.6-6 confusing and don't know how to interpret this. To me, it seems that this figure at least needs a better explanation in the figure legend.	We consider this to be an important figure and will try to find a way to make it clearer.
Sandra Díaz	45				Figure 3.3.4.6-6. this is an important figure. However, the legend has to be more clear and detailed to make the best use of it.	We consider this to be an important figure and will try to find a way to make it clearer.
Bruno Paris	46	1079	46	1079	Many species of trouts are natives to North-America	Will include.
Lucía Oralia Almeida Leñero	46	1049	46	1049	Change aguaculture for aquaculture	Will do.
Lucía Oralia Almeida Leñero	46	1076	46	1076	All general conclusions related to management of ecosystems (for each biome) should be placed in a table to facilitate policy and decision making	This is a good suggestion that will be followed if space permits.



Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Sally Valdes	46	1038	46	1038	Not all pollinators are bees. Might be good to indicate that this is the case. Non-bees can be very important, perhaps equally important. See Romina Radera,1, Ignasi Bartomeusb, Lucas A. Garibaldic,d, Michael P. D. Garratte, Brad G. Howlettf, Rachael Winfreeg,Saul A. Cunninghamh, Margaret M. Mayfieldi,j, Anthony D. Arthurk, Georg K. S. Anderssonl, Riccardo Bommarcom,Claire Brittainn, Luísa G. Carvalheiroo,p,q, Natacha P. Chacoffr, Martin H. Entlings, Benjamin Foullya, Breno M. Freitast,Barbara Gemmill-Herrenu, Jaboury Ghazoulv, Sean R. Griffing, Caroline L. Grossa, Lina Herbertssonl, Felix Herzogw,Juliana Hipólitox, Sue Jaggara, Frank Jaukery, Alexandra-Maria Kleinz, David Kleijnaa, Smitha Krishnanv,Camila Q. Lemost, Sandra A. M. Lindströmk,bb,cc, Yael Mandelikdd,ee, Victor M. Monteirof, Warrick Nelsonf,Lovisa Nilssonl, David E. Pattermoref, Natália de O. Pereirat, Gideon Pisantydd,ee, Simon G. Pottse, Menno Reemerff,Maj Rundlöfbb, Cory S. Sheffieldgg, Jeroen Scheperhh,ii, Christof Schüeppsjj, Henrik G. Smithl,bb, Dara A. Stanleykk,ll,mm,Jane C. Stoutll,mm, Hajnalka Szentgyörgyinn,oo, Hisatomo Takipp, Carlos H. Vergaraqq, Blandina F. Vianax,and Michal Woyciechowskin. 2016. Non-bee insects are important contributors to global crop pollination. PNAS vol 113(1):146-151/pnas.1517092112	We thank the reviewer for pointing this out and providing the relevant reference
Sally Valdes	46	1052	46	1065	Another concern related to aquaculture is the spread of disease into wild populations.	Very good point- will add.
Carlos A. Joly	46	1066	46	1075	<u>I think it should mention the great increase in soybeans productivity in Brazil see <a href="http://siteresources.worldbank.org/EXTPREMNET/Resources/EP145.pdf">http://siteresources.worldbank.org/EXTPREMNET/Resources/EP145.pdf</a></u> <u>Suggestion: For example, Brazil became the world leader in soybeans productivity( Kg/ha).</u>	When we present trends, there is sometimes sufficient evidence to point to the causal drivers and sometimes not. We have asked the LAs to provide evidence when it exists.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Sandra Díaz	46	1076	47	1102	Any major trends as to what organisms are the ones causing more problems? Any particular taxonomic group? Some of the worst invaders are deliberately introduced, for example the ornamental Ligustrum and Pyracantha, the trout in cold lakes and rivers, beavers. That means that exotic species must provide some benefits to some sectors of society. An analysis of whether these benefits compensate the losses is relevant to this assessment. Also an examination of the biotic resistance hypothesis could be good: do we have solid, field evidence that it works? An in the systems where exotic species are spreading over the landscape, is there any quantification of losses, or it is just an issue of "relational values" (the exotic species is bad simply because "does not belong here"). Finally, some of the species spread much more through active planting than spontaneous spread, e.g. Eucalypt. These are very important sources of benefits (e.g. timber, fuelwood) that are not easily replaceable from native plantations... all complex issues that could at least be pointed at in this chapter (or reference be made to other chapters). Also a table of the "worst" invaders in the region with spread, and losses provoked, and subregions would be very useful and well placed in this chapter	
Miriam Alfi	47	1104	41	1148	There is a superficial work on urbanization processes and the importance of megacities in biodiversity loss. Not taken into account the exponential growth of Latin American cities. Nor is it considered population growth, one of the relevant factors in the loss of biodiversity on the continent.	The section of invasive species will be modified substantially to consider a broader range of organisms.
Carlos A. Joly	47	1084			continue the phrase with ....where they became invasive.	The section of invasive species will be modified substantially to consider a broader range of organisms, and also different hypothesis on invasion and mechanisms that account for invasions. Will be taken care of.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Carlos A. Joly	47	1085	47	1091	In the case of Brazil since the early 90's Eucalyptus is the main species planted in extremely extensive areas (6.951.145 ha in total while Pinus 2.048.284 ha) <a href="http://www.sidra.ibge.gov.br/bda/tabela/protabl.asp?c=5930&amp;z=p&amp;o=30&amp;i=P">http://www.sidra.ibge.gov.br/bda/tabela/protabl.asp?c=5930&amp;z=p&amp;o=30&amp;i=P</a> OR <a href="http://www.florestal.gov.br/snif/recursos-florestais/as-florestas-plantadas">http://www.florestal.gov.br/snif/recursos-florestais/as-florestas-plantadas</a>	We thank the reviewer for the information, and yes pines are invasive.
Carlos A. Joly	47	1085	47	1091	Why the paragraph ends with information/data about South Africa???	Will be fixed.
Sandra Díaz	47	1117	47	1121	Reasoning unclear	Point taken. It is big jump to connect the two trends.
Sandra Díaz	47	1117	47	1121	The issue of urban sprawl over green areas and enclosure of green spaces around cities into private walled neighbourhoods are particularly relevant in the region; perhaps they can be addressed more explicitly in this chapter, or referred to other specific sections in other chapters?	We have asked the Lead Author to concentrate more on specific examples for the region.
Carlos A. Joly	48	1152			The net effects differ REMOVE of	Will be corrected.
Carlos A. Joly	50	1178	50	1185	Bats are an important group of mammals in cities see <a href="https://www.researchgate.net/profile/Rafael_AVILA-FLORES/publication/255418235_USE_OF_SPATIAL_FEATURS_BY_FORAGING_INSECTIVOROUS_BATS_IN_A_LARGE_URBAN_LANDSCAPE/links/0deec530cfa0aadf23000000.pdf">https://www.researchgate.net/profile/Rafael_AVILA-FLORES/publication/255418235_USE_OF_SPATIAL_FEATURS_BY_FORAGING_INSECTIVOROUS_BATS_IN_A_LARGE_URBAN_LANDSCAPE/links/0deec530cfa0aadf23000000.pdf</a>	Will review.
Carlos A. Joly	50	1178	50	1185	Bats are an important group of mammals in cities see <a href="https://www.researchgate.net/profile/Rafael_AVILA-FLORES/publication/255418235_USE_OF_SPATIAL_FEATURS_BY_FORAGING_INSECTIVOROUS_BATS_IN_A_LARGE_URBAN_LANDSCAPE/links/0deec530cfa0aadf23000000.pdf">https://www.researchgate.net/profile/Rafael_AVILA-FLORES/publication/255418235_USE_OF_SPATIAL_FEATURS_BY_FORAGING_INSECTIVOROUS_BATS_IN_A_LARGE_URBAN_LANDSCAPE/links/0deec530cfa0aadf23000000.pdf</a>	Idem.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Bruno Paris	51	1231	52	1279	<p>The authors may want to consider providing more information on invasive vs alien (non-native) species. For example: Approximately 1,229 (24%) of the 5,087 known plants in Canada are not native. Of these, 486 are considered weedy or invasive (Canadian Food Inspection Agency. 2008: <a href="http://publications.gc.ca/collections/collection_2008/inspection/A104-74-2008E.pdf">http://publications.gc.ca/collections/collection_2008/inspection/A104-74-2008E.pdf</a>).</p> <p>Should general data on indigenous vs non-native species be needed, see Wild Species 2010: The General Status of Species in Canada. (<a href="http://publications.gc.ca/collections/collection_2011/ec/CW70-7-2010-eng.pdf">http://publications.gc.ca/collections/collection_2011/ec/CW70-7-2010-eng.pdf</a>): "On the 11 950 species assessed, a total of 1426 species were ranked as Exotic. Most of the species that were given a Canada rank of Exotic in this report are vascular plants (1252 species), representing 89% of all Exotic species."</p>	
Bruno Paris	52	1260	52	1260	Title should probably refer to invasive alien species (not alien species)	<p>This is a very good possibility, especially for the subregional analysis where whole country data can be used.</p> <p>This is not clear in all cases, and needs to be checked. Many data bases do not discriminate between non-invasive aliens and invasive aliens.</p>
Bruno Paris	52	1261	52	1262	For Canada-Animal Species: It is difficult to see how this number (142) is derived from CWF database	We will have the lead author check this out.
German IPBES Coordination Office and national scientists	52	1255	52	1259	Consider quoting and reference to Hill et al (2015): A social-ecological systems analysis of impediments to delivery of the Aichi 2020 Targets and potentially more effective pathways to the conservation of biodiversity. Global Environmental Change 43, 22-34.	This is an interesting paper, but probably belongs more to Chapter 5 or 6.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
German IPBES Coordination Office and national scientists	53		90		Chapters are well written with good literature reviews and new insights from literature. Main focus mostly is on examples with special relevance for the Americas Regions. Please ensure that an order once agreed upon (which might be the one in Chapter 1, cited above) is maintained, as in the current sections of the document the order is very often mixed up and might complicate conclusions concerning certain biomes.	We will follow the order given in Chapter 1.
German IPBES Coordination Office and national scientists	53	1291	53	1292	Please provide adding the main federal highways in the Amazon and the future plans of highway construction; see Fearnside, Coy et al. for Brazil.	Our chapter does not focus on Drivers. Drivers are the substance of Chapter 4.
German IPBES Coordination Office and national scientists	53	1291	53	1387	The recently published WWF Amazonas Report 2016 might be considered as it offers some new findings and provides many relevant publications. The report draws heavily on research carried out by academics, independent researchers and other NGOs. More than 300 key references and notes are given. (see: <a href="http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_living_amazon_report_2016_mid_res_spreads_1.pdf">http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_living_amazon_report_2016_mid_res_spreads_1.pdf</a> ).	We have sent this reference onto the Lead Author and have asked him to review it.
Jens Mutke	53	1283	57	1432	To my impression, this section almost completely concentrates on the Amazon basin. It should start with at least a short overview on tropical wet forests in Latin America (not only South America!) in general.	This should no longer be a problem, because with the changes that came out of the Bonn meeting, this section will be expanded to all wet tropical forests. It was not our decision to limit the treatment of wet tropical forests to the Amazon in the FOD.
Lucía Oralia Almeida Leñero	54	1336	54	1337	This information has been already been said	Correct, and in the next version, all drivers will be treated in Chapter 4.
Carlos A. Joly	54	1305	54	1305	inasmuch - in as much	Should really be "inasmuch as" according to the Cambridge Dictionary.
Carlos A. Joly	54	1336	54	1337	The phrase is a repetition of lines 1320 1321	Will attend to.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Carlos A. Joly	54	1344			The construction of huge water reservoirs for large hydroelectric power station (such as Balbina, Tucuruí, Belo Monte, etc...) are also an important driver of deforestation (see Lees, A. C.; Peres C.; Fearnside, P.M.; Schneider, M.; Zuanon, J.A.S. 2016. Hydropower and the future of Amazonian biodiversity. Biodiversity and Conservation 25(3): 451-466. doi 10.1007/s10531-016-1072-3)	
German IPBES Coordination Office and national scientists	54	1325	54	1334	ILK is considered in the official politic in Brazil in collaboration with international projects and funds as Amazon Fund, GIZ (Germany) with the programs of demarcation of indigenous territories and development of their own administration with sustainable forest use; e.g. see list of programs in GIZ: Amazon Fund for Forest Conservation and Climate Protection with: a) Establishment and management of Communal Conservation Areas in South America ... b) Protecting Biodiversity by Integrating Ecosystem Services into Public Programmes and Business TEEB (The Economics on Ecosystem Services and Biodiversity).	Chapter 3 will not be dealing with drivers.  Conservation in indigenous territories is very relevant. We need to find somebody to help us with this aspect.
German IPBES Coordination Office and national scientists	54	1325	54	1334	German initiative ICI (International Climate Initiative) and implementation of LifeWeb Initiative to promote protected areas projects can help maintaining especially benefits of Tropical Forests für people (List of biodiversity projects funded by the German Federal Ministry for the Environment, Nature Conservation Building and Nuclear Safety at: <a href="https://www.international-climate-initiative.com/fileadmin/Dokumente/2014-project_list_biodiversity.pdf">https://www.international-climate-initiative.com/fileadmin/Dokumente/2014-project_list_biodiversity.pdf</a> ).	Well taken.
German IPBES Coordination Office and national scientists	55	1349	55	1350	Recent decline in deforestation in the Amazon (Brazil) see also: Nepstad et al. 2009: The end of deforestation in the Brazilian Amazon Science and: Nepstad et al. 2014: Slowing Amazon deforestation through public policy and ... Science.	Deforestation will be treated in Chapter 4, not chapter 3.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
German IPBES Coordination Office and national scientists	56	1385	56	1387	Controverse discussion on how land use change (LUC) will change the precipitation pattern in the Amazon; look not only on IPCC; e.g. table - own work; NOT published, use only trustfull!!!	This will now be treated in Chapter 4.
German IPBES Coordination Office and national scientists	56	1385	56	1387	Controverse discussion on how land use change (LUC) will change the precipitation pattern in the Amazon; look not only on IPCC; e.g. table - own work; NOT published, use only trustfull!!!	This will now be treated in Chapter 4.
Carlos A. Joly	57	1443			See Werneck, F. et al 2011 Revisiting the historical distribution of Seasonally Dry Tropical Forests: New insights based on palaeodistribution modelling and palynological evidencegeb. Global Ecology and Biogeography DOI: 10.1111/j.1466-8238.2010.00596.x AND Mogni, V.Y et al 2015. The distribution of woody legumes in neotropical dry forests: The pleistocene arc theory 20 years on. Edinburgh Journal of Botany DOI: 10.1017/S0960428614000298	This is an interesting topic, but if palaeoecological work is included in one biome, it will have to be included in the others. With the increase in the number of biomes we must now consider, we have only 1.5 printed page for each biome!
Jens Mutke	57	1433	57	1433	Why only Mesoamerican dry forests? There has been e.g. a great loss of natural Forests in the Gran Chaco in Argentina during the last decade.	Why- because this is what we were asked to do - i.e. not consider the entire biome. There has been rethinking on this issue in the Bonn meeting, and now all of a given biome will be considered in the Americas assessment.
Jens Mutke	57	1444	59	1474	For the Cactaceae, probably the plant family with best degree of documentation, Barthlott et al. (2015 in Schumannia) analysed overall diversity patterns. This analysis highlights the important biodiversity of many dry habitats including the Tropical dry forests in Central and South America. Important diversity centers can be found in the Mexican Chihuahua desert, the Puebla-Oaxaca Tropical dry forests, the southern Central Andes in Bolivia, and the Brazilian Caatinga.	This interesting paper has been sent on to the Lead Author for the dryland biome.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Comerma	59	1472			<p>suggest adding" the presence of a dry season allows the production of many crops( like cereals) that require a dry period for their maturity and harvest". Another factor is that in general soils in dry forest are more fertile ( less leached)than soils of the tropical rain forest suggest adding" the presence of a dry season allows the production of many crops( like cereals) that require a dry period for their maturity and harvest". Another factor is that in general soils in dry forest are more fertile ( less leached)than soils of the tropical rain forest</p>	Ecosystem services will be treated in chapter 2. The information is more relevant there.
Carlos A. Joly	62	1541			<p>The Brazilian Cerrado, the richest in species savannah of the world is NOT MENTION in Chapter 3. In my opinion it must be an item about the Cerrados and this is the best place to include it. There is vast bibliography about its species diversity (many articles having James Ratter as co-author), its service as carbon stock (many articles having Mercedes Bustamante as co-author) as well as on major threats.</p>	It was not mentioned because tropical savannahs were not on the list of biomes to be originally considered. With reorganization of Chapter 3, it will be considered - along with other tropical savannahs, all in 1.5 pages.
Comerma	62	1543			<p>Focus is mostly in grasslands, not in savannas. By extension savannas are more important. They contain poorer soils, because of leaching and , pedological evolution, but with good physical conditions that favours many tropical and subtropical crops, like maize, soybean, pastures etc. They occur mostly in Brasil, Colombia, Venezuela. Reference is the Soil Atlas of LAC</p>	Tropical Savannahs and grasslands were not on the list to be considered originally. For grasslands we were instructed to concentrate on temperate South American grasslands - La Plata et al. See above comment.



Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
German IPBES Coordination Office and national scientists	62	1540	62	1540	In Chapter 3.4.2 on Grasslands please consider quoting Bond, W. (2016). Ancient grasslands at risk. Science Vol 351; p.120-122 revealing striking differences in old-growth versus secondary grasslands and the challenges in replacing them by afforestation projects.	Will check this reference out to see if it is relevant for the Americas.
German IPBES Coordination Office and national scientists	62	1540	62	1540	Missing Chapter on the status of tropical dry forests with Dry Chaco Forest and with Cerrado in Brazil: main important tropical dry forests by biodiversity and conversion to pasture and crops; e.g. See Guest Editorial, part of a Special Feature on The influence of human demography and agriculture on natural systems in the Neotropics Globalization and Land-Use Transitions in Latin America H. Ricardo Grau 1,2 and Mitchell Aide 3: E&S 2008; Beyond 'land sparing versus land sharing': environmental heterogeneity, globalization and the balance between agricultural production and nature conservation; 2013Ricardo Grau1, Tobias Kuemmerle 2, 3,Leandro Macchi; Grau et al. 2008: Balancing food production and Nature Conservancy in the Neotropical Dry Forests of Northern Argentina: Global Change Biology; tropical dry forests - Cerrado: Beuchle R, Grecchi RC, Shimabukuro YE, Seliger R, Eva HD, Sano E, et al. Land cover changes in the Brazilian Cerrado and Caatinga biomes from 1990 to 2010 based on a systematic remote sensing sampling approach. Appl Geogr. 2015;58: 116–127. Klink CA, Machado RB. Conservation of the Brazilian Cerrado. Conserv Biol. 2005;19: 707–713. doi:10.1111/j.1522-1729.2005.00702.x	We point out that the original instructions for our Co-chairs were such that several biomes, and parts of biomes were not to be considered. This policy has now changed, and all biomes and their full extent will be considered.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Sandra Díaz	62	1541			Is the South American Gran chaco included here? The chapter is not clear about its placement, and does not seem to consider the sizeable literature about this biome, which is also disappearing fast.	We point out that the original instructions for our Co-chairs were such that several biomes, and parts of biomes were not to be considered. This policy has now changed, and all biomes and their full extent will be considered. However, because of the large number of biomes in the Americas, treatments will be limited to 1.5 pages.
Alejandra Volpedo	63	1555	1577	1576	The problem of eutrophication is very important. This process while it is natural in the region (Fernandez Cirelli et al., 2006; Schenone et al., 2008; Volpedo et al., 2009)[1] is being intensified by agricultural production and the contribution of water untreated peoples 8fernandez Cirelli et al., 2010; Fernandez Reyes et al., 2014)[2]. This problem impairs the quality of water for different uses (animal drink, drink human) as well as the integrity of water bodies producing changes in the trophic and lost chains of diversity.	We are still struggling with having the right expertize to deal with wetlands. Thank you for pointing this out.
Alejandra Volpedo	63	1555	1577	1576	<u>[1] SCHENONE, N; A. V. VOLPEDO and A. FERNÁNDEZ CIRELLI. 2008. Estado trófico y variación estacional de nutrientes en los ríos y canales del humedal mixohalino de Bahía Samborombón</u>	We are still struggling with having the right expertize to deal with wetlands. Thank you for pointing this out.
Alejandra Volpedo	63	1555	1577	1576	<u>(Argentina). Limnética 37 (1): 66-72</u> FERNÁNDEZ CIRELLI, A.; C. DU MORTIER y A. V. VOLPEDO. 2006. Influencia de las Actividades Agropecuarias en los Procesos de eutrofización en la Cuenca Baja del Río Salado (Provincia de Buenos Aires, Argentina). En: José Galizia Tundisi, Takako Matsumura Tundisi y Corina Sidagis Galli (Eds) Eutrophication in South America: causes, consequences and technologies for management and control. Instituto Nacional de Ecología de São Carlos, pp.17-34. ISBN: 85-87418-05X, 531pp	We are still struggling with having the right expertize to deal with wetlands. Thank you for pointing this out.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Alejandra Volpedo	63	1555	1577	1576	VOLPEDO, A.V., N. SCHENONE y A. FERNÁNDEZ CIRELLI. 2009. El proceso de eutrofización en la región pampeana (Argentina). 110-126. En Los recursos hídricos en la Region del Mercosur: estudios de caso. Eds. Fernández Cirelli, A y I. Amaral. Jaboticabal FUNESP. ISBN: 978-85-7805-041-2. 140 pp	We are still struggling with having the right expertise to deal with wetlands. Thank you for pointing this out.
Alejandra Volpedo	63	1555	1577	1576	[2] FERNÁNDEZ CIRELLI, A., H. MOSCUZZA, A. PEREZ CARRERA. y A. V. VOLPEDO. 2010. Aspectos ambientales de las actividades agropecuarias. AGROVET, Buenos Aires, ISBN: 987-43-4551-9.189 pp	We are still struggling with having the right expertise to deal with wetlands. Thank you for pointing this out.
German IPBES Coordination Office and national scientists	63	1568	63	1570	Missing change of NPP (perhaps with NDVI documented) and importance of carbon storage above and below ground.	In the new chapter structure agreed upon in Bonn carbon will be treated at the subregional level.
Lucía Oralia Almeida Leñero	64	1579	64	1579	The impacts of livestock grazing is present in most of biomes and could be taken as a subsection	This belongs more to the drivers chapter (4).
German IPBES Coordination Office and national scientists	64	1592	64	1592 fo	Provide adding a Chapter on Patagonia grassland - or is it covered in the Dry Lands ??; huge areas of sheep overgrazing and desertification with loss of biodiversity see e.g. FADER, M., BÖHNER, J., GEROLD, G. (2012): Precipitation variability and landscape degradation in Rio Negro (Argentina). GEO-ÖKO 1-2: 05-33.	We have noted that we need to include this. One of our LAs will try to do these but may not have sufficient expertise or access to data in both hemispheres.
Lucía Oralia Almeida Leñero	69	1707	69	1707	Cultural ES were not included	Ecosystem services will now be treated in chapter 2, not chapter 3.
Lucía Oralia Almeida Leñero	70	1754	70	1756	Mexican montane areas (Sierra Madres) belong to the North American Continent and are placed in Central America	Will include.
German IPBES Coordination Office and national scientists	70	1737	70	1737	Please add simulated changes of fire risks with climate change in the prairies.	All drivers will now be treated in Chapter 4.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Jens Mutke	71	1790	71	1790	Barthlott et al. (2007 in Erdkunde 61) is probably the more suitable reference instead of Barthlott et al. 2001; You might add as well Kier et al. (2009 in PNAS) which combines species richness and endemism of plants and vertebrates at a global scale and highlights the Northern Andes as one of the global top 20 regions	Will review and include. It will all depend on whether the information is split between montane forests and above treeline habitats, as now these two biomes will be considered separately.
Jens Mutke	71	1792	71	1792	You might add a sentence that many Andean species have extremely small distribution ranges (compare e.g. Kreft et al. (2006 in Ecography 29 (1)), Barthlott et al. 2015 in Schumannia, or Mutke et al. 2014 in Frontiers in Genetics 5)	Yes, will do.
Jens Mutke	71	1808	71	1808	Luebert & Weigend 2014 in Front. Ecol. Evol. 2 present 'Phylogenetic insights into Andean plant diversification' based on an extensive literature review.	Was originally cited, but taken out because of space considerations. The situation in the new version for space will be more critical as we have only 1.5 pages of text for each biome.
Jens Mutke	74	1858	74	1859	Vincent et al. (2013 Biol. Cons. 167) show the tropical Andes as one of the global centres of Crop wild relatives	This will be treated in the biocultural section, which has not yet been written.
Sandra Díaz	74	1872	74	1879	The reasoning behind different useful plants reflecting high functional diversity in some areas and some phylogenetic and life-form diversity in others areas is unclear, and might be irrelevant to the main point being made.	
Comerma	76	1937			In cloudy forest in the Andes is also very important the dew or horizontal rain coming from the clouds moving every day up and down, and adding moisture to the leaves and trunks.	Will revise. Water balance will be treated at subregion level. We do not have enough space to treat it at a biome level.
German IPBES Coordination Office and national scientists	76	1939	76	1946	Please add importance of cloud forests for biodiversity, water balance and carbon stocks; see Bruijnzeel&Kapelle&Mulligan&Scatena 2010: Tropical montane cloud forests Cambridge Univ. Press.	Will do.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
German IPBES Coordination Office and national scientists	77	1965	77	1966	Please add development of Cloud Forests in the Andes - see see Bruijnzeel&Kappelle&Mulligan&Scatena 2010: Tropical montane cloud forests Cambridge Univ. Press.	Thank you for the reference.
German IPBES Coordination Office and national scientists	78	2006	78	2009	Neotropical montane forest: ecology and ESS with regeneration see: BECK, E., BENDIX, J., KOTTKE, I., MAKESCHIN, F., MOSANDL, R. [Hrsg.] (2008): Gradients in a Tropical Mountain Ecosystem of Ecuador. Ecological Studies 198, Springer Verlag, 525 S.	Thank you for the reference.
Lucía Oralia Almeida Leñero	83	2108	83	2108	There is a lot of information regarding biodiversity in desert areas of Tehuacán-Cuicatlán, Mexico	Thank you for the reference.
German IPBES Coordination Office and national scientists	83	2090	83	2090	Valuable evaluation with focus on USA .	Biome treatment will be expanded to other geographical areas according to the new instructions received from the Secretariat.
Jens Mutke	83	2108	83	2116	Barthlott et al. (2015 in Schumannia) showed that the dry lands of N Mexico and the SW US are the most important center of Cactus diversity (probably the plant family with best degree of documentation), including many restricted range species.	Answered previously.
German IPBES Coordination Office and national scientists	87	2178	87	followin	Please add a case study on overgrazing and loss of biodiversity in Patagonia: e.g. SALA, O.E.; PARUELO, J.M.; OESTERHELD, M. 1999. El impacto del cambio global sobre la región patagónica. In: DHV Consultants BV; SCC Swedforest International; AB. 1999. Patagonia XXI. Hacia una diversificación productiva y sostenibilidad ambiental. Informe Técnico 2. Desertificación y Conservación. Buenos Aires. and: BRAN, D. 2000. Capítulo II: La Patagonia y la desertificación. In: Manazza, J. (ed.) 2000. Principios de ecología y conservación de los recursos naturales de la Patagonia. «Mirando al Sur Argentino». INTA. S. 13-17.	We probably will not have space for a case study, but will look into the reference.
Lucía Oralia Almeida Leñero	90	2240	90	2243	Is the paragraph referring exclusively to invasive species in drylands in Mexico? Otherwise, the information is too general for this subsection	The information at the country level clearly does not belong here- perhaps it will be useful at the subregional level.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Carlos A. Joly	90	2254	94	2422	Here is a good point to call attention of the enormous imbalance of this whole section in the way the Units of Analyses are treated. For Montane system we have almost 10 pages (from page 70 to 82) while for the whole Caribbean islands and marine ecosystems we have only 3,5 pages. This must be reviewed given much more attention to MARINE Ecosystems in general. If needed the group should incorporate an expert in this area. AGAIN I suggest Dr. Antonio Carlos Marques (marques@ib.usp.br), whom has been selected as an expert but has been put in "holding" to be eventually be called. He is available and is highly interested in participate.	Andean Montane systems as they were defined in Colombia for the assessment include three separate biomes: southern temperate forest, alpine grasslands and shrublands, and montane tropical forests. This might help to explain why this section is so large. Now that we have been asked to completely change the scheme, montane systems will be broken up.
Sandra Díaz	90	2254			What about the Hawaiian islands> Where in this chapter are they dealt with?	Yes. We are not responsible for Hawaii and will have to add this in.
Sally Valdes	95	2463	95	2463	60 freshwater fish seems low for temperate forests. See <a href="http://www.actionbioscience.org/bamericaniodiversity/walsh.html">http://www.actionbioscience.org/bamericaniodiversity/walsh.html</a> for morAmerican fish.tion on North	Will revise.
Thomas Brooks (IUCN)	98	2477	98	2480	Please cite the underlying source of these data.	Will be done.
Lucía Oralia Almeida Leñero	103	2642	103	2642	Scientific names must be in italics	Our slip.
Miriam Alfi	104	2655	106	2754	The only reference in the text to the knowledge of the communities and peoples on biodiversity and care, lost to very interesting data. It is very important more important to highlight community experiences on local knowledge that can enrich the text, and so to unite natural sciences and social knowledge.	There will be a new section on biocultural biodiversity across biomes.
Lucía Oralia Almeida Leñero	104	2653	104	2653	This subsection is missing in several biomes or it is described with much less detail	There will be a new section on biocultural biodiversity across biomes.
Sandra Díaz	104	2653	108	2781	This section, particularly the description of the harvesting approach and the sustainable timber production, might be best placed in Chapter 2 (nature's benefits to people)	Will be moved to Chapter 2.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Bruno Paris	110	2881	110	2881	Red fox is a Canadian native species and, to my knowledge, it has not been introduced in the Arctic by human action so it would not qualify as an invasive alien species stricto sensu.	Will check this out.
Carlos A. Joly	111	2890	114	3057	During the First Authors Meeting in Bogota it was decided that in the item Wetlands both the Great Lakes AND THE BRAZILIAN WETLANDS would be focused, but there is only information about the Great Lakes. Brazil has the largest area of flooded forests in the Amazon (Varzea and Igapo Forests) that are home to 15 million people that depend entirely from the ecosystem services provided by the flood regime. Furthermore Brazil hosts the Pantanal a large flooded area at the Paraguay River Basin that is extremely important for biodiversity (is a Ramsar Site) and for Ecosystem Services. So, to be coherent with what was decided in Bogota this section MUST include the Brazilian wetlands.	The new chapter outline contains a section on wetlands across the Americas.
Lucía Oralia Almeida Leñero	114	3058	114	3059	This whole subsection should have really accesible tables concentration the information	Completely understood. We have this in mind.
Royal Gardner	114	3027	114	3035	See <a href="https://www.fws.gov/wetlands/Documents/Status-and-Trends-of-Wetlands-In-the-Coastal-Watersheds-of-the-Conterminous-US-2004-to-2009.pdf">https://www.fws.gov/wetlands/Documents/Status-and-Trends-of-Wetlands-In-the-Coastal-Watersheds-of-the-Conterminous-US-2004-to-2009.pdf</a> for data on status and trends of coastal wetlands along the Great Lakes.	
German IPBES Coordination Office and national scientists	114	3058	119	3289	Chapters are well written with inspiring synthesis, please provide more good literature reviews and insights from literature.	Thank you for the reference. We appreciate that the reviewer valued the first attempt at a synthesis. We hope to be able to use tables and graphs in the final synthesis.
Sandra Díaz	115	3077	116	3080	This sentence abot diversity likely to increase is very difficult to understand. Please spell out.	Point well taken.
Royal Gardner	120	3309	12	3310	When completing this section, I recommend that there be some consistency with how policy instruments are described and categorized in the LDR assessment. (Note, however, that the FOD of the LDR assessment is internally inconsistent in this regard.)	This perhaps is more relevant to Chapter 6.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
German IPBES Coordination Office and national scientists	121	3311	168	5372	Authors should be aware that not all of the sources quoted in the text are listed in the references. Please cross-check carefully all references with all quoted sources in Chapter 1 (see e.g. Line 327).	References will be revised.
Marina Rosales Benites de Franco Bruno Paris	785	785	35	35	It could be consider in item 3.3.4.5 endangered turtles, corals not only coral reef, All Chapter (and other Chapters where relevant): the authors use "invasive species", "invasive non-native species" and "invasive alien species". I would suggest being consistent across the sections and chapters.	Will do.  This is a good point. We need to talk to the other chapters in this regard.
sandra LUQUE		1454			Again figure based on very old data considered the rapid changes of forest cover	Will try to find a more recent source.
sandra LUQUE		1458		1459	Table is ineligible -	Will be redrafted if still used.
sandra LUQUE		1556			Figure lacks reference, year?!	Will correct.
sandra LUQUE		1602			In figure data ends in 2001?! Considering the increase in the use of fertilizers in the last 10years this sort of outdated information is not just useless but could be very misleading - there is plenty of information on the use of pesticides, fertilizers and agricultural inputs in general - use updated statistics from latest reports of FAO and other food and agriculture census!!!	This will be removed, as it really belongs to Chapter 4 anyhow.
Thomas Brooks (IUCN) CONABIO					Congratulations to the authors for all their hard work in producing this FOD. Consideramos que la información sobre pesquerías y mares no está bien representada y se concentra principalmente en Canadá. Es necesario incluir más información al respecto que aplique a diversas regiones del Continente.	Thank you.  We are working on this.
CONABIO					También es necesario complementar la información sobre mares profundos. Se incluye una nota indicando que no se cuenta con mucha información al respecto, sin embargo existen publicaciones a las que vale la pena referirse. Especialistas mexicanos podrían contribuir a complementar este tema.	This is being contemplated. Finding experts has not been easy.



Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
CONABIO					El tema de las pesquerías también debe ser abordado a la luz del cambio climático.	This is being contemplated. Finding experts has not been easy.
CONABIO					No identificamos referencia alguna a la publicación de "Ocean Health". Consideramos que hay información que es relevante y vale la pena retomar en esta evaluación.	We thank the reviewer for the reference.
CONABIO					Si bien la FAO ha elaborado evaluaciones globales (SOFIA, FRA, por ejemplo), éstas deben estar basadas en información a nivel regional, a la cual consideramos es necesario hacer referencia en esta evaluación; particularmente a la información referente a tendencias de la biodiversidad y los impactos de las pesquerías a la fauna de acompañamiento (por ej. efectos de artes de pesca en fondos marinos o de redes agalleras sobre especies como la vaquita marina en la pesca de totoaba). Éste capítulo también debería cubrir parte de la información plasmada en el "Estado de Conservación de las Aves de Norteamérica, 2016", en el que se considera a México como parte de esta subregión (stateofthebirds.org). Fragmentos de esta publicación se harán llegar directamente por expertos a través de las vías oficiales.	A very relevant point which can be looked at also at a subregional level.
CONABIO					Consideramos conveniente construir un cuadro comparativo que muestre tendencias del estado de las poblaciones en el Continente para poder abordar la situación a nivel regional. Hay ejemplos de reversión en tendencias de deterioro a los que también es necesario hacer alusión.	We look forward to receiving the publication.  We will see if this is possible.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Sandra Díaz		237			Fig. 3.3.1-3. Fascinating figure. Comments: why do different orders differ in PHTOSYNTHESIS? Is this related to biomass production instead? Some of the services appear strange or unclear; these are obviously the ones listed by the authors of the original study, but some clarification correspondence table in the legend will be needed, once the NBP system is considered in this chapter.	We have removed this because we are not concerned with ecosystem services now.
Astrid Hilgers	91	2357	91	2379	In the Dutch Caribbean in depth studies have taken place on ecosystemservices and linkages of biodiversity and ecosystemservices. These studies might help to provide some stronger content for this paragraph, for example: The fishery value of coral reefs in Bonaire S Schep, A Johnson, P van Beukering, E Wolfs - IVM Institute for Environmental Studies, Amsterdam, The ..., 2012. Coastal Protection services of coral reefs in Bonaire B van Zanten, P van Beukering - 2012 The total economic value of nature on Bonaire JAC van der Lely, P van Beukering, L Muresan... - 2013	We will now be looking at linkages between biodiversity and ecosystems services in a separate section, and not in the individual biomes sections. Thank you for the references.
Astrid Hilgers	93	2380	94	2423	In the Dutch Caribbean free roaming donkeys and goats can be seen as amongst the most harmful invasive species, threatening the coral reefs. Coping strategies hardly work. Exotic and invasive terrestrial and freshwater animal species in the Dutch Caribbean. G. Van Buurt, A.O. Debrot, 2011	Thank you for this information.
Astrid Hilgers					General comment: biodiversity data from the islands of the Dutch Caribbean are relatively well researched and monitored concerning biodiversity and ecosystemservices. The data and analyses seem not be incorporated very well in this FOD. I would recommend to use the Dutch Caribbean biodiversity database as a source for data and articles <a href="http://www.dcbd.nl">http://www.dcbd.nl</a>	Thank you for this information, which we welcome.