

Comments from 2nd Review Phase of Chapter 5. Deliverable 2b. Americas Assessment on Biodiversity and Ecosystem Services.

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Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Tom Christensen	0	0	0	0	This chapter only deals very little with the Arctic (and only in relation to terrestrial/tundra habitats). The Arctic Biodiversity Assessment and the CAFF. 2017. State of the Arctic Marine Biodiversity Report should be consulted in this regard. Important changes in the Arctic are not described. Changes in shipping, Industry, fisheries etc, due to changes in ice conditions and changes in important habitats (sea ice, polynias etc) needs to be included. Also the Arctic Council workinggroup AMAP has recently produced a report about this topic (AACA - adaptation Actions to a Changing Arctic) that can be relevant for this chapter. Also relevant information from Greenland should be mentioned in this regard. Reviewer can help identify relevant places in literature.	A section on Arctic sea ice (Cryosphere) has been added.
Virginia Meléndez Ramírez	0	0	0	0	*e.g. For Brazil/Mexico:	We do not understand this comment
Virginia Meléndez Ramírez	0	0	0	0	http://www.sciencedirect.com/science/article/pii/S0140988315001292	We do not understand this comment
Virginia Meléndez Ramírez	0	0	0	0	http://apps.who.int/iris/bitstream/10665/246116/1/WHO-FWC-PHE-EPE-15.26-eng.pdf	We do not understand this comment

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Virginia Meléndez Ramírez	0	0	0	0	http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0164178	We do not understand this comment
United States Government	0	0	0	0	We recommend significant redrafting of this chapter to streamline and improve its clarity. Much of the chapter is repeated from previous chapters 2, 3, and 4, and the discussions of scenarios and use of scenario results are difficult to interpret. We also recommend that the speculative statements in this section be deleted or redrafted.	The new structure of the chapter hopefully makes this clearer
Antonio de la Mora Covarrubias	0	0	0	0	Define indicators (qualitative and quantitative) useful for integrating into complex models for the Nature-Society relationship.	Indicators are being defined by another IPBES group, and thus, is beyond the scope of this assessment.
Antonio de la Mora Covarrubias	0	0	0	0	The Chapter mentions the 4 types of actors that lead scenarios but it does not address the power of each.	This comment is not relevant to our chapter scope
Antonio de la Mora Covarrubias	0	0	0	0	The Chapter 1, Figure 1.5 (line 1021). The arrow of models with direct and indirect drivers is incorrect. It should be located between NBP and GQL. It should be moved to Chapter 5.	The arrows are in agreement with the technical report of Models and Scenarios Task Force. However, arguably, the reviewer has a point and there should be another arrow where he indicates. However, we cannot alter a figure in an already accepted IPBES document.
Antonio de la Mora Covarrubias	0	0	0	0	Greater congruence in the theoretical framework is needed. It is wrong to divide biodiversity and ecosystems.	The new structure of the chapter hopefully makes this clearer
Antonio de la Mora Covarrubias	0	0	0	0	There is a little information on grasslands and the major emphasis is focused on forests.	Thank you for this comment

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
David Loreto	0	0	0	0	We suggest to reorganize the structure of the chapter in order to guide the "evaluation" (approaches, tools, methodology, etc). It will be reconsidered in order to decide what kind of evaluation is required to have an impact on policy.	The new structure of the chapter hopefully makes this clearer
Laura Schneider	0	0	0	0	If land cover is important in modeling, there are spatial databases in Mexico (through programs and/or investigation) that can be reported/added to the Chapter. There are several articles which review models in land-use /cover change that may be important: - Dawn C Parker, Steven M Manson, Marco A Janssen, Matthew J Hoffmann, Peter Deadman, 2003, Multi-agent systems for the simulation of land-use and land-cover change: a review, Annals of the Association of American Geographers. 93 (2) 314-337 - Erik Nelson, Heather Sander, Peter Hawthorne, Marc Conte, Driss Ennaanay, Stacie Wolny, Steven Manson, Stephen Polasky. 2010. Projecting global land-use change and its effect on ecosystem service provision and biodiversity with simple models. PloS one, 5 (12).	We cannot do this here for reasons of space and IPBES guidance.
Laura Schneider	0	0	0	0	The results presented in the Executive Summary are not supported (for example it is not clear direct link between conservation and well-being). It is necessary to identify the core and the authors of the work.	The Executive Summary narrative of the SOD has been eliminated and all points have been condensed into Key Findings, which are fully supported.
Laura Schneider	0	0	0	0	Executive Summary. The focus is mainly on climate change and modeling. It should be extended to others drivers such as land use changes and landscape management.	The Executive Summary narrative of the SOD has been eliminated and all points have been condensed into Key Findings, which are fully supported.
Laura Schneider	0	0	0	0	Executive Summary. Focus on trends on dry forest, when tropical transitions are more diverse: Example Reforestation, wet forests, savannas, grasslands.	The Executive Summary narrative of the SOD has been eliminated and all points have been condensed into Key Findings, which are fully supported.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
María Evelinda Santiago	0	0	0	0	<p>The concepts of uncertainty, risk and danger are needed in the Chapter. Uncertainty as an event (externality)</p> <p>Bibliography:</p> <p>*Ulrich Beck, "Risk Society. Towards a New Modernity". Sage Publication. Published: July 2012</p> <p>*Daniel Innerarity, Javier Solana, "Humanity at risk. The need for Global Governance Continuum-Bloomsbuury, New York, 2012"</p>	<p>On one hand, we do acknowledge in the chapter in the discussion on models that they are just models and not absolutes and thus are an approximation of the real world. On the other hand, although we did not focus or included a specific section on uncertainties and risks, we carefully assigned and addressed levels of uncertainty via our assessment of confidence in the Key Messages. The discussions on uncertainties on models and projections are of a more technical basis and therefore are addressed in more detail by the Task Force on models and scenarios and their <u>published technical report</u></p>
Marlín Pérez Suárez	0	0	0	0	<p>Throughout the chapter in its various sections there is no homogenization in the examples or case studies. For example, there is no comment on what is happening in Mexico or in another Central American country (mangroves restoration programs) as well as in South America that only put an example to Brazil and do not mention other South American countries. In the same way, they go unnoticed the Caribbean countries</p>	<p>We cannot do this here for reasons of space and IPBES guidance.</p>
Marlín Pérez Suárez	0	0	0	0	<p>The text does not mention of the importance and implications of the traditional agriculture in Mesoamerica</p>	<p>We cannot do this here for reasons of space</p>
Marlín Pérez Suárez	0	0	0	0	<p>In the literature we consider climate change is an indirect anthropogenic drivers product of environmental pollution and the fragmentation and / or degradation of natural ecosystems caused by different human activities. In its case the authors consider it as a direct anthropogenic driver, to clarify why they consider it so.</p>	<p>IPBES considers climate change as a direct antropogenic driver. See Chapter 4 for deeper explanation</p>

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Marlín Pérez Suárez	0	0	0	0	One of their key findings, in specific (2) Significant amounts of Tropical Dry Forest has been converted to grasslands and semi-arid systems. (Well established) About 65% of new desert areas originally represented Tropical Dry Forest. Mesoamerica is one of the regions where the tropical dry forest has suffered a significant impact in its coverage, due to the conversion to agricultural land and livestock, mainly. No mention is made of this in the chapter and specific to the case of Mexico	We cannot do this here for reasons of space and IPBES guidance.
Marlín Pérez Suárez	0	0	0	0	One of their key findings, in specific (3) The Boreal and Temperate forests are threatened by climate change and the potential impacts on the disturbance regimes of fire and insect outbreaks are predicted to significantly impact indigenous communities and well-being. They are also impacted by industrial development, which is resulting in increased fragmentation of the forest ecosystems. In the same way, the case of Mexico the template forest is the most threatened and the one that has suffered a considerable decrease in its coverage throughout the country. There is no mention of this in this section. In addition, it is necessary to consider and include as a unit of analysis the alpine ecosystems that are well represented throughout the American continent. Since the biodiversity they harbor is highly susceptible (endemism) to direct and indirect controls of loss of diversity, in addition to their close relationship in the subsistence of marginal	We cannot do this here for reasons of space and IPBES guidance.
Miguel Equihua	0	0	0	0	The document does not reflect the evaluation for the Americas. Problems at the regional level are not adequately examined. It is necessary to include degradation.	This comment is not relevant to our chapter scope; habitat degradation is the subject of entirely different document/task force

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Miguel Equihua	0	0	0	0	I am surprised that two central themes of the relationship between nature and society: health and food are not adequately addressed. There is monumental evidence of the importance of the use of medicinal plants in the provision of health and well-being throughout the region. Knowledge about this is threatened by a serious process of cultural erosion and loss of biodiversity. America contains 4 of the 12 centers of origin of cultivated plants usually recognized in the planet. The presence of genetic diversity in cultivars and their wild relatives is crucial in the evolution of the relationship between nature and society. There are important actions undertaken to address threats resulting from biodiversity loss trends. However, the issue is not addressed in the text and does not even deserve mention.	This chapter addresses the many aspects of health and NCPs through the figures contained in the Focal Analysis section. While questions of food and health are important, however due to page limitations, the authors decided to focus on climate change and habitat degradation in terms of land use change. Additionally, the issue of genetic diversity in crops is addressed in other chapters (2&3).
Miguel Equihua, Laura Schneider and Antonio de la Mora Covarrubias	0	0	0	0	There are other tools in addition to "GLOBIO" that the evaluation could be based, mainly because it is a regional evaluation. There is a proposal for the application of multicriteria systems called "OPTAMOS" developed for a project in the Americas. It is called: ROBIN-decision support tool. Grima, N., Singh, S. J., & Smetschka, B. (2017). Decision making in a complex world: Using OPTamos in a multi-criteria process for land management in the Cuitzmala watershed in Mexico. Land Use Policy, 67, 73-85.	The section where we discuss GLOBIO's output is a section that addresses major trends of nature and nature's contributions to people in the Americas from global to regional scale. It deals with biodiversity indicators and natural area under different pathways towards sustainability.
Mtro. Pablo Zaldivar Martínez	0	0	0	0	The chapter did not address the problem of Risk and Disasters.	Same answers as in comment 17
Numa P. Pavón Hernández	0	0	0	0	This chapter is not easy to read nor to understand. Contents should be reorganized.	The new structure of the chapter hopefully makes this clearer

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Numa Ponpillo Pavón Hernández	0	0	0	0	We suggest to mention the heterogeneity of indigenous peoples at the beginning of the text	Addressed in other chapters.
Numa Ponpillo Pavón Hernández	0	0	0	0	It is necessary to include information on indigenous knowledge and the use of biodiversity that they make. It is suggested to include a synthesis table that integrates cases from different countries.	The new structure of the chapter hopefully makes this clearer
Numa Ponpillo Pavón Hernández	0	0	0	0	Literature proposal: Toledo U. y Ortiz Espejel, 2014, "México, regiones que caminan hacia la sustentabilidad. Universidad Iberoamericana, Puebla.	We cannot do this here for reasons of space and IPBES guidance.
Octavio Pérez Maqueo	0	0	0	0	Consider to summarize the information of Figures 5.16, 5.20, 5.21, 5.22, 5.25, 5.28, 5.29, 5.30, 5.31, 5.32 and 5.33 in one table. A reference of figure SPM1 would help to understand the links between the different components of the table.	The authors attempted to consolidate the figures, but the results were not satisfactory and much important detail was lost.
Octavio Pérez Maqueo, Antonio de la Mora Covarrubias, Miguel Equihua and Laura Schneider	0	0	0	0	There are methodological proposals for modeling that should be mentioned in the Chapter and evaluated as possible tools for the case of the Region. For example: 1) Boumans, R., Costanza, R., Farley, J., Wilson, M.A., Portela, R., Rotmans, J., Villa, F., Grasso, M., 2002. Modeling the dynamics of the integrated earth system and the value of global ecosystem services using the GUMBO model. Ecol. Econ. 41, 529–560. 2) Villa, F., Bagstad, K.J., Voigt, B., Johnson, G.W., Portela, R., Honzák, M., Batker, D., 2014. A Methodology for Adaptable and Robust Ecosystem Services Assessment. PLoS One 9. doi:10.1371/journal.pone.0091001. There are also some other approaches that can be suggested for the analysis of scenarios, some of them are based on multicriteria analysis. As an example please check OPTAMOS that was developed for a project conducted for America (ROBIN).	We acknowledge the existence of alternative mechanisms to model trends in the Visions and Pathways section. BRIAN COULD YOU MAKE A REFERENCE IN THE FIRST PART OF THE SECTION (if you haven't done yet?)
Pablo Zaldivar Martínez	0	0	0	0	There is a contradiction between Chapter 4 and 5. Perceived Scenario of Boreal and Temperate Forests (In case of Mexico for example they are not stable)	Thank you for this comment

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Pablo Zaldivar Martínez	0	0	0	0	It is suggested to take up examples of ecoregional planning. Example: "The Nature Conservancy and PRONATURA. México, A.C., 2007"	We cannot do this here for reasons of space and IPBES guidance.
Rosa María Chávez Dagostino	0	0	0	0	The framework of the IPBES is all based on quality of life(QoL) and under the concept provided in Ch 5 and all the frameworwk, any action could be justified: If the final aim in the model is the QoL, then the concept would be better analyzed. Define better the QoL based most on "necesities" for example and not on "desires" See Amartya Sen and Martha Nussbaum (1993). The Quality of life, Oxford University Press	This comment is not relevant to our chapter scope
Sophie Avila	0	0	0	0	General comment: Not all chapters start the same, sometimes with summary and sometimes with key findings	The new structure of the chapter hopefully makes this clearer
Sophie Avila	0	0	0	0	In general there is no logical sequence of the document. It looks like three very different diagnoses that can not be compared. It seems to me that this chapter really needs to be reviewed and prioritize which scenarios will be considered.	The new structure of the chapter hopefully makes this clearer
Sophie Avila	6	0	0	147	They can not begin the chapter by saying that there is no such thing. It is fine at the end as an observation because it is obvious that there would not be an integral evaluation with the IPBES approach	Guidance provided to the CLAs indicate that the identification of gaps is an important finding and are acceptable as Key Findings.
Sophie Avila	7	0	0	181	Several paragraphs indicate ecosystem effects, but sometimes the stressor is described more emphatically, such as climate change, there is no consistency. On the other hand, there must be many assessments of change in species distribution due to climate change	Mentioned in later sections... Executive Summary narrative deleted.
Sophie Avila	16	0	0		The scenarios on which they are based are not clear. They are different from the table proposed above	Presentation of the pathways of the GLOBIO model has been edited in order to make them comparable to the archetypes (introduction and section 5.5.2.)

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Liliana Bravo-Monroy	General	146	77	2261	That might include integrated and cross-scale analysis of these dynamics, including feedbacks, synergies, time-lags, tipping points, resilience, cross-regional interrelations, and trade-offs.	The new structure of the chapter hopefully makes this clearer
Liliana Bravo-Monroy	General	146	77	2261	There is valuable information through the Chapter that should be contrasted/complemented with that presented in Ch 4. This would unify criteria and build a sound in-depth analysis of the dynamics of interactions between main elements, boxes and fluxes of the IPBES conceptual framework, based on reviewed information.	The new structure of the chapter hopefully makes this clearer
Liliana Bravo-Monroy	6	146	77	2261	* It would be suggested to arrange the Chapter in two main parts. First, multiple interactions based on drivers according to Ch 4, 5 and the IPBES conceptual framework; second, exploration of changes in the trajectories of multiple drivers proposing paths towards sustainable development (e.g., per biome).	The new structure of the chapter hopefully makes this clearer
Liliana Bravo-Monroy	6	146	77	2261	* Based on section 5.6, it would be useful integrating ecosystem services for each bioma, and in doing so, showing the multiple relationships between ES, such as synergies, trade-offs, etc. Furthermore, it would be helpful quantifying pairwise relationships based on published literature and if possible, dialogue between Chapters' authors as well. For those analyses, see for instance: Haase et al 2012. Synergies, Trade-offs, and Losses of Ecosystem Services in Urban Regions: an Integrated Multiscale Framework Applied to the LeipzigHalle Region, Germany. Ecology and Society 17, 22. Lee, H., Lautenbach, S., 2016. A quantitative review of relationships between ecosystem services. Ecological Indicators 66, 340-351.	The new structure of the chapter hopefully makes this clearer. Additionally, we have focused a Key Finding on tipping points and thresholds
Miguel Equihua	6	146	146	6	The reliability levels of key assertions in this summary are not specified, which could lead to inconsistencies in further communication.	The wording has been improved
Liliana Bravo-Monroy	6	147	6	149	5.1 Executive Summary. It would be suitable to start the summary with an affirmative finding or contribution of the Chapter.	The wording has been improved

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Miguel Equihua	6	147	149	6	It is unclear what the search conditions imply to the conclusion that nothing has been published about it. It could well be that the criteria were too restrictive. That is, the question is, are there modeling efforts that take exactly the conceptual framework of IPBES as a basis? Finding such examples in relation to the seminal publication of 2015 is unlikely and this should be a criterion for weighting the result. On the other hand, it is necessary to explain why it would matter such result for the treatment of the subject: Current and Future Interactions between Nature and Society. For me this does not necessarily require such complex integrative modeling, although it would be very interesting to have it. Starting the executive summary with this sentence is disqualifying for the rest of the text and therefore I advise against giving such a priority to that result, unless the authors argue that it is indeed the case and that there are serious doubts about any other result that has tried until now to analyze the current and future interactions between Nature and Society.	Guidance provided to the CLAs indicate that the identification of gaps is an important finding and are acceptable as Key Findings.
Miguel Equihua	6	158	160	6	{Biodiversity degradation The impact on biodiversity} is clear for the regions in three different normative scenarios analysed: (1) Global technology, (2) Decentralized Solutions, and (3) Consumption Change (PBL, 2014, 2012). Agricultural expansion and climate change being critical drivers.	We do not understand this comment
Diego Pacheco	6	165	6	170	It is impossible to calculate the terrestrial ecosystem service value. I do not support including this amount. A more deep discussion of multiple values is undertaken, including economic values, but introducing an amount without context and source is not good for the assessment. I suggest to delete this paragraph.	Ecosystem valuation is a prominent discipline with respect to valuing biodiversity; to not include such information would result in an unbalanced treatment of the current field.
Miguel Equihua	6	165	170	6	Important conclusions are given but their generality or solidity is not accurately contextualized. It is not explained why the "archetypal scenarios" of the ITG are considered in this analysis, since the initiative of a private group does not generate binding agreements with decision makers. In any case it should be pointed out that they are a source of opinions and analysis.	We disagree with this comment. The use of scenarios is central to the effort of modeling and informing decision makers as to options; the use of archetypes is justified later in the text, as the number of specific scenarios is unmanageable to address in the assessment.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Liliana Bravo-Monroy	6	176	6	179	It would be useful to provide an explicit example that shows how a driver impact at local and national/ regional scales..	This is done later in the chapter.
Liliana Bravo-Monroy	7	180	9	283	Key Findings.This section could reflect key messages of all the boxes and fluxes of the IPBES Conceptual Framework.	The wording has been improved
Laura Schneider	7	180	9	283	Executive Summary: For key findings, it is problematic to overestimate results on US and Canada, it would be better to have a balance with results from other regions in Latin America.	The wording has been improved
Melanie Kölb	7	180	9	283	Executive Summary. In key findings the assertion are very general. They do not allow to transmit clear messages. For example, Key finding 4. It is necessary to highlight subregional particularities, for example land change: *Agriculture Urban in NA *Selva-Agriculture in SA	The wording has been improved
Octavio Pérez Maqueo	7	180	9	283	From the information provided in the chapter it is difficult to rate the quantity and quality of evidence to establish the confidence levels of the key messages. This information is relevant for the decision maker. We know that the assessment of confidence levels is part of the summary for policy makers and we assume that the data used for such evaluation will be available in that document. However, it would have been useful to have it during the revision of the chapter in order to evaluate the key messages more properly.	The Key Findings have been reviewed and re-written so as to provide more concise statements with references as to supporting data.
Diego Pacheco	7	181	7	197	Policy makers do not have any clue and reference about the units of analysis, better to speak about ecosystems or biomas. I disagree only speaking about climate change in the tundra since it has broader impact in all biomas. It is an imperative to refer to the different biomas and the impact that it has climate change.	Units of Analysis are explained in other chapters and the Summary for Policy Makers, the term is an IPBES Bureau and MEP approved term; we cannot change it.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Miguel Equihua	7	181	185	7	I am surprised that the effects of climate change on the presence of disease-transmitting vectors do not appear in this chapter. I would expect that health would be a central theme of wellbeing, and there are multiple documented links between biodiversity and health, but the authors do not seem to have considered it relevant. The term health is handled in the text in relation to "ecosystem health" (strongly related to Pachamama), contamination affectations or public health instruments. But examples of the relevance of medicinal plants, for example, for health care are not mentioned anywhere. Undoubtedly, a substantial link between biodiversity and society is the health procurement in the region, the issue can not be omitted. There is a tendency in which the loss of traditional knowledge is associated with the loss of biodiversity, is this pattern irrelevant?	Discussion of the role diseases and disease transmitting vectors have been added to the sections on coral reefs, temperate and boreal forest, and wetlands.
Daniel P Faith		194		195	No evidence for this in the chapter - also note that lots of local losses of biodiversity will not necessarily imply overall loss of the biodiversity of the tundra	This discussion was deleted and the Key Findings were broadened.
Thomas Brooks	7	198	7	205	As discussed in Chapter 4, vulnerability to land use change is also a major issue affecting tropical moist forests, especially in the Atlantic Forest, Andes, Caribbean, and Mesoamerica. Expand this paragraph to cover moist as well as dry forests.	The current writing of the Key Findings consider all UA. See KF#1
Virginia Meléndez Ramírez	7	204	7	205	Add for Mesoamerica	The KFs are indicative of processes occurring in the Americas. In the text specific regions are considered for the analysis.
Guiomar Nates-Parra	7	206	7	208	It seems to me that there is inconsistency between these two paragraphs (Line206-208 and line242-243) when referring to the boreal forests: are stable or are expanding or are threatened.	The wording has been improved
Miguel Equihua	7	206	209	7	Not only "indigenous people," or the catastrophic fires in California are significant. There is currently a major threat from the expansion of redbay ambrosia beetle (<i>Xyleborus glabratus</i> and <i>Euwallacea fornicatus</i>) that threatens to deplete broadleaved forests and industrial avocado plantations !!!	Thank you for this comment

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Brenda McAfee	7	207	7	208	climate change and outbreaks from fires and forest pests will impact all forest dependent communities.	The discussion of future trends in temperate and boreal forests has been expanded to better address insect outbreaks and fire.
Diego Pacheco	7	215	8	227	Delete this paragraph. It is not a key finding of this assessment. Its more methodological.	Disagree. The fact that the current levels of drivers do not differentiate between many underlying factors should be extremely important to policy makers.
Thomas Brooks	7	215	8	241	Surely these two key findings that relate to all drivers, and find them all important, should be moved up from #4 and #5 to become #1 and #2 at the top of Page 7? It is misleading to open the key findings with discussion of one specific driver (climate change) in one specific unit oif analysis (tundra).	Agree.
Miguel Equihua	7	215	216	7	The proposition does not directly imply a causal relationship, therefore the qualifier Established but incomplete is out of place.	I'm not sure a causal relationship is necessary to establish a key finding.
Thomas Brooks	7	218	7	218	Add "invasive species" here, given the strong evidence presented in Chapter 4.	List drivers has been deleted.
Miguel Equihua	8	228	231	8	Inconsistent proposition. The last sentence could contradict the general statement that is stated as "well established"	KFs were rewritten for consistence and representation of information within the chapter
Octavio Pérez Maqueo	8	228	8	231	In key finding 8 of the Executive Summary it is preferable to report the results of the scenarios rather than the variables that have been used to construct them.	KFs were rewritten for consistence and representation of information within the chapter
Diego Pacheco	8	232	8	240	This paragraph is also methodological and should be deleted.	Has been removed. See response to similar comment 64
Thomas Brooks	8	232	8	240	This is strange as a key finding - it's a very generic and methodological point, with no particular relevance to the Americas more than anywhere else. Suggest deleting - is it really necessary?	Has been removed. See response to similar comment 64

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Miguel Equihua	8	232	233	8	The proposition does not imply a relation of causality, therefore the qualifier "well established" is not appropriate	Has been removed
Virginia Meléndez Ramírez	8	237	8	237	Add Species richness	Species richness does not appear as an indicator used in the documents we reviewed, therefore we are not including it
Brenda McAfee	8	243	8	244	Is the Boreal Forest expanding or extending its range northwards while at its southern boundary ecosystems are reacting similarly?	The expansion to the North is associated to changes in temperature. The physical pressure on the southern boundary is associated to land use change
Octavio Pérez Maqueo	8	245	8	246	Incomplete sentence.	Sentence removed. The context was considered within the KFs
Octavio Pérez Maqueo	8	247	8	251	In key finding 8 of the Executive Summary it is necessary to specify if the loss they mention apply to all the scenarios.	Noted and completed
Diego Pacheco	8	252	8	258	The issue of telecoupling and teleconnection needs explanation. Therefore is difficult to introduce both terms without explanation. Better not to use them in the key findings.	Causal interactions between distant places was considered in the KFs. Further information on the term telecoupling is provided in the text
Miguel Equihua	8	259	265	9	Again, a methodological statement that does not directly establish causal relationships, therefore the qualifier "well established" is not applicable. The conclusion of the paragraph would be discover the "masked" pattern, but notably there is not elaboration on this point.	Noted and completed
Octavio Pérez Maqueo	8	259	8	261	The first sentence of key finding 10 "Inferring patterns and trends for the Americas' biodiversity and ecosystem's good and services from analyses on a global scope might hide patterns and trends occurring at regional scales, and analyses on regional scales might hide patterns and trends at local scales" applies to any other study and I think is irrelevant. Consider to modify or eliminate.	Noted and completed

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
DECO/Sbio/MMA	8	263	9	265	The total loss of the Cerrado in Brazil due to agricultural conversion is 11,69% according Terraclass Cerrado - 2013 (available in http://www.mma.gov.br/publicacoes/biomas/category/62-cerrado?download=1139:mapeamento-do-uso-e-cobertura-da-terra-do-cerrado). The information of the text (50%) is not correct.	Noted and completed
Virginia Meléndez Ramírez	9	264	9	264	Add for Mesoamerica	The KFs are indicative of processes occurring in the Americas. In the text specific regions are considered for the analysis.
Ederson A Zanetti	9	266	9	272	there should be mention to wood construction consumption in north america region and the increase on forest cover area	Noted and completed
Royal Gardner	9	266	9	272	The statement "long-established governmental protections of wetlands in North America have slowed and may, in fact, have reversed wetland loss based on acreage" may be overly optimistic. Is it consistent with the discussion on page 30 of chapter 6? While wetland losses for some types of wetlands in N Am may have slowed, that is not the case for others, such as forested wetlands in the Southeast US.	Noted and completed
Thomas Brooks	9	266	9	272	There is much other evidence of protected area impact and benefit in the Americas; the key findings here are rather weak on this. Some key references include Nelson & Chomitz (2011 PLoS ONE http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0022722) and Andam et al. (2008 PNAS http://www.pnas.org/content/105/42/16089) on impacts and Ferraro & Hanauer (2014 PNAS http://www.pnas.org/content/111/11/4332.full) on benefits. It would be useful to draw from these here.	This comment and the articles are more appropriate to chapter 6.
Virginia Meléndez Ramírez	9	268	9	272	Add for Mesoamerica	Thank you for this comment
Diego Pacheco	9	273	9	277	This is a methodological finding and must be deleted from key findings.	Has been edited

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Harald Pauli	9	273	9	277	indeed, the lack or scarcity of detailed long-term monitoring data on biodiversity and its changes is the important reason for major gaps in the IPBES assessment. Whereas data availability is satisfactory for some taxonomic groups (e.g. birds) least in some regions, it is not for many/most other organism groups (especially invertebrates). The IPBES assesment, therefore, would an important opportunity to strongly underpin the urgent demand of supporting existing and the development of new (internationally and nationally operating) monitoring networks/programms, which will be decisive for the assessment of trends in the future.	Noted and completed
Diego Pacheco	9	278	9	283	This is a methodological finding and must be deleted from key findings.	Thank you for this comment
Virginia Meléndez Ramírez	9	283	9	283	Add for Mesoamerica	We cannot do this here for reasons of space and IPBES guidance.
Liliana Bravo-Monroy	10	285	13	374	5.2 Introduction. A question arises: Was Chapter 5 build on the analysis of the previous Chapter 4?	The new structure of the chapter hopefully makes this clearer
Liliana Bravo-Monroy	10	285	13	374	The purpose of Chapter would be therefore examining the dynamics of interactions between Society and Nature. It might include integrated and cross-scale analysis of these dynamics, including feedback, synergies, time-lags, tipping points, resilience, cross-regional interrelations, and trade-offs. Furthermore, exploring changes in the trajectories of multiple drivers and the role played by interactions.	The new structure of the chapter hopefully makes this clearer
Numa P. Pavón Hernández	10	285	11	285	I am thinking that you should includ more information, examples and discussion about cultural systems of indegenous people. In many countries indigenous people have a very important role in use and conservation of biodiverity and ecosystem services. You wrote about this until L 2025.	ILK discussion has been substantially revised.
Diego Pacheco	10	286	10	291	The terminology of ecosysstem goods and services needs to be replaced by the agreed methodology, which is NCP (which includes both EGS and natures' gifts), and explain different knowledge systems to interpret relationships between natural systems and humans. This clarification should be considered in the entire section.	EGS replaced by NCP throughout the text, accordingly

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Tanya Lazarova	10	288			Isn't it better to use the term nature's contributions to people (NCP) to be consistent with the IPBES terminology (throughout the entire chapter)?	EGS replaced by NCP throughout the text, accordingly
Numa P. Pavón Hernández	10	291	10	291	It would be convenient to refer to these frameworks as complex systems or socio-ecosystems	Agree.
Octavio Pérez Maqueo	10	296	10	298	Please explain how the literature search was conducted	Text have been added to explain more details about the literature review
Octavio Pérez Maqueo	10	301	10	311	This section is nice. However the authors do not use this classification of models during their review. Consider deleting this paragraph or try to use this information during the chapter. For example, what type of model is Globio?	The wording has been improved
Numa P. Pavón Hernández	11	313	11	313	I know that Fig 1 was made for IPBES. However, I think that stakeholdes is a missing element. On the other hand, drivers are basic elements to build scenarios.	We cannot change the figure.
Margarita N. Lavides	11	315	11	315	Delete: 'it' as in 'The literature review is focused on.....'	Noted and completed
Numa P. Pavón Hernández	11	321	11	321	You should include a little more about uncertainty. I recomend you this revision. Maier, H. R., Guillaume, J. H., van Delden, H., Riddell, G. A., Haasnoot, M., & Kwakkel, J. H. (2016). An uncertain future, deep uncertainty, scenarios, robustness and adaptation: How do they fit together?. Environmental Modelling & Software, 81, 154-164.	Thank you for this comment, the discussion was added and the reference incorporated.
Margarita N. Lavides	12	333	12	333	Correct: 'futures' to future	Noted and completed

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Numa P. Pavón Hernández	12	337	12	337	Backcasting is a very interesting method for the use the scenarios. I recomend you revise this references: Robinson, J. (2003). Future subjunctive: backcasting as social learning. <i>Futures</i> , 35(8), 839-856. Vervoort, J. M., Thornton, P. K., Kristjanson, P., Förch, W., Ericksen, P. J., Kok, K., ... & Wilkinson, A. (2014). Challenges to scenario-guided adaptive action on food security under climate change. <i>Global Environmental Change</i> , 28, 383-394. Kok, K., van Vliet, M., Bärlund, I., Dubel, A., & Sendzimir, J. (2011). Combining participative backcasting and exploratory scenario development: experiences from the SCENES project. <i>Technological Forecasting and Social Change</i> , 78(5), 835-851.	Indeed, very interesting approach. The examples provided by the reviewer do not consider the Americas. We used a set of scenario families that is considered to form the basis of many scenarios used in different assessments (see van Vuuren et al, 2012), and were agreed to between the Assessments and Modeling Task Force.
Diego Pacheco	12	338	12	354	I do not agre using these three scenarios. I rejected the use of this in the first order draft and I reject using it in the second order draft. The use of these scenarios is ver prescriptive for policy making. The Great Transition, for example, can be related to the implementation of the "green economy", which leads to the worldview of commodification of nature. I will prefer the use, instead, of the Living-Well transition. The use of Great Transition is unacceptable. Also, the use of barbarization leads to confusion. There is the need to develop a different taxonomy, which is not based on Hunt et. al.	These overall scenarios were agreed to between the Assessments and Modeling Task Force.
Diego Pacheco	12	351	12	354	I do not agree with these four scenarios: I do not understand the differences between market forces and policy reform for example, or between policy reform and new sustainability paradigm. MF are connected to PR since there is not a market force acting individually. The same, the NSP is connected with PR and also with MF. In the FW the analogy to the "tragedy of the commons" of Hardin should be used. There is the need to reflect better in the scenarios. There are drawbacks in these four scenarios. In practice, private (MF), public (PR) and community institutional arrangements correspond to different type of goods and services, and therefore these are not exclusive among themselves. Otherwise, see the work of Ostrom (University of Indiana) and colleagues. Based on the work of Ostrom and colleagues I would suggest to use the following scenarios: i) the predominant capitalist scenario (market approach); ii) the implementation of rights-based approaches (private, public and community mixed institutional arrangements); iii) the tragedy of the commons	These overall scenarios were agreed to between the Assessments and Modeling Task Force.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Tanya Lazarova	14	376			Perhaps the title could be changed to something like "Major trends of nature and nature's contributions to people in the Americas: ineterpretations from global scale literature". Perhaps you should use the new terminology of IPBES - NCP instead of NBP throughout the whole chapter.	Thank you for this comment, title has been changed to: Major trends of nature and nature's contributions to people in the Americas: learning from global scale literature. We will consider referring to NCP instead of NBP too.
Melanie Kölb	14	376	21	481	The results of MSA are not related to implications for biodiversity and services and GQL (Example: extinctions)	Thank you for this comment it has been made more clear see section 5.5.2.
Melanie Kölb	14	376	21	481	It is necessary to contextualize the scenarios to the subregions. Each one will have a different expression in the drivers: North America: N-NCP-GQL Mesoamerica: N-NCP-GQL South America: N-NCP-GQL	We do not undestand this comment
Melanie Kölb	14	376	21	481	Are the results of the Global Model relevant to the region? The section is very long.	The chapter has been re-organized and this section has been better placed into Visions and pathways.
Liliana Bravo-Monroy	14	378	21	482	5.3.1. GLOBIO: past, present and future human-induced changes in biodiversity at regional to global scales. Given that GLOBIO model is the starting point and base for formulating scenarios and projections, it would seem dissociated from drivers identified on previous Chapter 4.	The chapter has been re-organized and this section has been better placed into Visions and pathways. Cross references, overlaps and gaps between chapter will be analyzed
Liliana Bravo-Monroy	14	378	21	482	There is an emphasis on biological topics (e.g., trends in biodiversity by mean species abundance, natural area; pressures; trends in land use). It would be valuable going beyond biological dimensions in order to analyse/infer/distinguish interactions e.g., analysing in detail the loss of biodiversity per sector under three different pathways (Figure 5.6).	We will address this adding more text in the "Pressures driving biodiversity loss" we will discuss GLOBIO's outputs analysing the loss of biodiversity per sector under three different pathways

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Diego Pacheco	14	406	14	410	What is the relationship of the three scenarios highlighted by GLOBIO with the previous four scenarios presented in the text as the scenarios for analysis in this chapter? The problem with these three scenarios is that they appear also as exclusive, which is not true. In practice, decentralization and technological solutions can be complementary, along with consumption change. There is the need to move into a more polycentric approaches, which links global, national and local solutions. Also, based in the work of Ostrom Elinor and Vincent Ostrom in polycentricity.	Thank you for this comment presentation of the pathways of the GLOBIO model has been edited in order to make them comparable to the archetypes (introduction and section 5.5.2.)
Octavio Pérez Maqueo	14	412	15	418	Is it possible to contrast these scenarios with those presented in table 5.1? Are they similar?	Presentation of the pathways of the GLOBIO model has been edited in order to make them comparable to the archetypes (introduction and section 5.5.2.)
Margarita N. Lavides	15	421	15	421	Add:"to" as in "to show a detailed picture...."	Noted and completed
Virginia Meléndez Ramírez	15	426	15	427	Mesoamerica= Centroamerica?	IPBES Americas subregions are: North America, Mesoamerica, Caribbean and South America. In the text we are refering to Mesoamerica (which is represented by mexico only) and to Central America that includes Caribbean.
Stuart Butchart	15	428			Insert sentence/content from Visconti et al. (2015) Conservation Letters 9: 5–13	Thank you for this comment, provided reference will be considered in section 5.5.2.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
The Biodiversity Indicators Partnership (BIP)	15	428	16	436	It would be useful to complement this material on scenarios for "mean species abundance" with scenarios for extinction risk. Examples are Visconti et al. (2015) Projecting global biodiversity indicators under future development scenarios. Conservation Letters 9: 5–13. DOI: 10.1111/conl.12159 (who modelled threat to mammal carnivores and ungulates under the PBL 2012 "consumption change" scenario compared to business-as-usual) and Strassburg et al. (2012) Impacts of incentives to reduce emissions from deforestation on global species extinctions. Nature Climate Change 2: 350–355. DOI: 10.1038/nclimate1375 (who modelled threat to forest mammals and amphibians under different REDD scenarios compared to business-as-usual)	Thank you for this comment, provided references will be considered in section 5.5.2.
Thomas Brooks	15	428	16	436	It would be useful to complement this material on scenarios for "mean species abundance" with scenarios for extinction risk. Examples are Visconti et al. (2015) Projecting global biodiversity indicators under future development scenarios. Conservation Letters 9: 5–13. DOI: 10.1111/conl.12159 (who modelled threat to mammal carnivores and ungulates under the PBL 2012 "consumption change" scenario compared to business-as-usual) and Strassburg et al. (2012) Impacts of incentives to reduce emissions from deforestation on global species extinctions. Nature Climate Change 2: 350–355. DOI: 10.1038/nclimate1375 (who modelled threat to forest mammals and amphibians under different REDD scenarios compared to business-as-usual)	Thank you for this comment, provided references will be considered in section 5.5.2.
Tanya Lazarova	15	429	21	482	It would be good to go a bit more into depth on what the graphs are showing. For example, what is causing the large differences in MSA loss between North America and Central America and the Caribbean?	Thank you for this comment, it has been addressed as proposed (see section 5.5.2)
Jeffrey T. Morissette	17	445	19	463	It is not clear why alien invasive species is not considered in this analysis; given the reference listed above plus those given subsequently in Chapter 5 and elsewhere in the literature, and the finding from chapter 3 (in particular figure 3.23 but all noted in the executive summary and figure 3.10 and text box 3.1).	Invasive species has been discussed in section 5.3. GLOBIO does not consider invasive species as a driver, we have referred to this gap in section 5.5.2
Tanya Lazarova	17	446			I assume 'mostrate' should be 'demonstrate'	Noted and completed

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Tanya Lazarova	18	450			Perhaps it would be good to explain in the text why are there such large differences between North America and Central America in figures 5.4 and 5.5	Thank you for this comment, we have explained the large differences between subregions in the text (see section 5.5.2.)
Tanya Lazarova	20	468			This graph is quite difficult to read as it is. Could the data be presented in a different way to make it clearer?	Graph has been modified in order to make it more clear. I WILL CONTACT THE GRAPH PERSON
Daniel P Faith		476		476	but it is not clear - are these losses all similar bits of land or very different? Should say – this is all local fractional loss - that may be large or small overall regional loss	Thank you for this comment, text has been modified in order to make it more clear.
Liliana Bravo-Monroy	21	483	24	582	5.3.2. Is halting economic growth the solution to environmental sustainability? Although this section explores a path towards sustainable development (based on four indicators), it seems disconnected from previous Chapter.	Recast in terms of population growth and consumption patterns?
United States Government	21	483	22	524	This section is subjective, lacks balance and is beyond IPBES' mandate. Please delete.	The text presented here is based on evidence and results of models, not on the authors' point of view. It presents one alternative for the future based on a scientific approach and our task in this assessment is to present the evidence, whether politically inconvenient or not.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Diego Pacheco	21	484	21	496	The vision of the Vivir Bien is not a degrowth movement. Is a vision of the integrated development where is possible to achieve harmony and balance between economic growth and protection of environmental functions. I do not agree to introduce the degrowth theories as similar to eco-communalism, and the only way to achieve environmental sustainability. This is very policy prescriptive, and cannot be introduced as such in the text.	What we are trying to say is that DG, BV, etc.. could be categorize within the great transitions scenario archetypes, but not that they are the same. Based on the reviewed literature BV represent an alternative to development, and where growth and the economy should be subordinated to BV and the rights of nature, not the other way around or a balance between the two. I would appreciate the reviewer to support us with the references to sustain his/her claim
Tanya Lazarova	21	485			You refer to biodiversity loss in figure 5.8, but I cannot see anything on biodiversity in the figure. Do you mean another figure?	Noted and completed
Margarita N. Lavides	21	486	21	486	Correct: 'measure' to measured	Noted and completed
Tanya Lazarova	21	486			measured with a 'd' at the end.	Noted and completed
Diego Pacheco	21	497	21	502	The alternative to development, which is a western and capitalist society, is the Living-well (which is included in the conceptual framework) based in the ILK, oriented to achieving a balance between economic growth and conservatino of environmental functions.	Agree on the first part and it is acknowlege in the text of BV as an alternative to development. Not sure about the second part of BV looking for balance. Please provide references
Tanya Lazarova	21	504			Would sound better to say '..contemplating no economic growth or degrowth.', rather than 'contemplating no or economic degrowth'	Yes. Fixed

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Diego Pacheco	22	516	22	524	I do not consider that degrowth is an scenario, and therefore must not be discussed. Is not an scenario for Latin America, which has still an important rate of extreme poverty, and therefore there is the need for economic growth.	We are trying to make emphasis that there is a group of views that seek an alternative to development, therefore to economic growth as the sole indicator of human well being. These visions contemplate a slow down or halt of economic growth. If the reviewer thinks that we need economic growth to avoid poverty, that is fine, but that doesn't mean that we are not allow to present evidence of other alternatives. We need to be neutral and show the evidence but not be prescriptive
Diego Pacheco	23	528	23	545	NCP do not have monetary values but multiple values. The titling of this Box and also the exercise undertaken is completely inappropriate with the conceptual framework of IPBES. I suggest to change this. Also, there is the need to change the scenarios, as I have suggested previously: the i) the predominant capitalist scenario (market approach); ii) the implementation of rights-based approaches (private, public and community mixed institutional arrangements); iii) the tragedy of the commons scenario. Also, it is ridiculosu to put a value per hectare per year to the NCP in the region. I do not agree with this exercies and the entire Box must be deleted.	Monetary value IS one value and perhaps the easiest to quantify, but admittedly other values exist. Our task is to make a review of the information available. This analysis was done with that set of scenarios and we cannot change that.
Liliana Bravo Monroy	23	528	24	582	Box 5.1. Broad generalities highlighting economic values. It would be interesting to include details about each scenario, what type of ecosystem services and if available, other non-economic valuations.	This information is from a published study and cannot be parsed or reanalyzed for this assessment.
David Loreto	23	537	23	539	Explain briefly what this transition to an environmentally resilient future means since there is a risk of misrepresenting the meaning of resilience	The new structure of the chapter hopefully makes this clearer
David Loreto	23	537	23	539	Explain briefly what this transition to an environmentally resilient future means since there is a risk of misrepresenting the meaning of resilience	The new structure of the chapter hopefully makes this clearer

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Patricia S. Vazquez	24	563	24	566	Figure 5. 10. All figures lack the scale, coordinates, north. I think it would be wise to add it.	Figure will be addressed.
Octavio Pérez Maqueo	24	567	24	567	Better use Mesoamerica, South America and the Caribbean instead of Latin America to be consistent with nomenclature proposed by IPBES	This information is from a published study and cannot be parsed or reanalyzed for this assessment.
Liliana Bravo Monroy	25	584	32	845	5.4 Cross-scale issues affecting nature and nature's benefit to people. Interesting information (e.g., teleconnections and telecoupling), but it would be advisable to make a more explicit link with the IPBES conceptual framework. On the other side, it would be expected that this section explore changes in the trajectories of multiple drivers (drivers identified in Ch 4) and the role played by synergies, trade-offs and adaptive behaviour.	We are developing this new map illustrating different cases of teleconnections
Liliana Bravo Monroy	25	584	32	845	It would be suggested to complement/compare information with that described on Chapter 4.	A cross-chapter check will take place
Numa P. Pavón Hernández	25	584	25	584	Mesoamerica and North America information is missing. There are a bias from Brasil examples.	We cannot do this here for reasons of space and IPBES guidance.
Diego Pacheco	26	659	27	722	I do not understand why the Hoja de coca (coca leave) is included as a cross-scale issue, and as a controversial plant matter of concern. This is completely inappropriate with the spirit of IPBES, since is very policy prescriptive trying to shift a political issue into the IPBES assessment. The IPBES cannot be used as a political instrument for endorsing some concern of powerful countries. This section must be deleted as a whole.	removed

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Ricardo Castro-Díaz	26	659	28	721	There are a lot of more author references trying to understand the complex matter linked to coca leaf and cocaine in indigenous and farmers community. It shows very few references to the Uniter Nations Office against Drugs and Crime's texts taking into account, they are the leaders in Alternative Development (https://www.unodc.org/colombia/es/da2013/publicaciones.html). In the Latin American context, the coca and poppy illegal crops are one the most important subject matters when we talk about environmental issues and social vulnerabilities. It seems - and its a commentary not for the author but the editors, the nature of the IPBES are just misunderstanding the regional social background.	removed
MAYDS-Argentina	26	659	27	721	Línea 660. Una planta en sí misma no es controversial, sino en todo caso, el uso que se le da. Por otro lado las líneas 662 y 663 refieren a la demanda internacional en drogas: "These multiple identities transcend traditional boundaries of scale where the international demand for drugs and the responding war on drugs manifest in changed local dynamics in the Andean regions where the plant occurs naturally". Se considera ser cauteloso al abordar este aspecto en el marco de la Evaluación sobre biodiversidad y servicios ecosistémicos ya que se corre el riesgo de hacerlo en forma superficial a la vez que puede no sumar aportes significativos a los efectos de los objetivos de la evaluación. Se considera más apropiado abordar la coca como "droga" en los foros correspondientes y dedicados específicamente a tratar esta compleja problemática . Por otra parte falta agregar las principales citas (Pereira 2010) (Latour 2004) a la bibliografía.	removed
United States Government	26	659	28	721	The connection to IPBES' mandate is unclear in this section; recommend deletion.	removed

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
MINAM	26	666	27	668	<p>Concerning the implications of Coca (Erthyroxylum sp) in the social and environmental context, as well as in decision making for human welfare. The text is confusing and the message is not very clear. Therefore, it is suggested to rephrase the paragraph since it generates diverse political interpretations.</p> <p>En lo concerniente a las implicaciones de la Coca (Erthyroxylum sp) en el contexto sociaambiental y la toma de decisiones para el bienestar humano resulta confuso. Por lo que se sugiere rehacer el párrafo dado que genera diversas interpretaciones politicas.</p>	removed
Numa P. Pavón Hernández	27	680	27	680	I think that subsection about the coca is out of context. Maybe in the last section of the chapter could be better.	removed
MAYDS-Argentina	27	690	27	692	La oración "This opportune classification has been challenged, most notably by 690 Bolivian president Evo Morales at the United Nations Commission on Narcotic Drugs session held in 691 Vienna in March 2009 (UNODC, 2009) again called for its exclusion from List 1." no aporta a los efectos de los objetivos de la presente Evaluación. Se sugiere su eliminación.	removed
María Evelinda Santiago Jiménez	27	704	28	721	It is necessary to make a difference of the cultural systems in a more detailed way so that the users can visualize that the traditional cultures, the original Nations, have an approach to the Nature in a respectful way so that all the "raw materials" for them have the connotation of people. While in Western culture they are materials to be used, transformed, consumed as drugs.	removed
Diego Pacheco	28	723	30	779	Biomass burn is related to agriculture, I do not understand why to discuss agriculture separately from the previous section.	The new structure of the chapter hopefully makes this clearer

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
MINAM	28	724	28	728	<p>It is suggested to put "land degradation" instead of "deforestation, desertification, pollution and nutrient depletion" because it covers all negative changes in the ecosystem's ability to deliver goods and services, particularly food systems.</p> <p>Se sugiere colocar "degradación de la tierra", en lugar de colocar "deforestación, desertificación, contaminación y agotamiento de nutrientes" ya que cubre todos los cambios negativos en la capacidad del ecosistema para prestar bienes y servicios, particularmente a los sistemas alimentarios.</p>	There is an special report on land degradation being produced by IPBES. Due to the broad concept, to point specific examples we preferred among the wuthor of the text.
MINAM	28	750	29	754	<p>It is mentioned that priority areas for biodiversity conservation are threatened and are associated with land use change processes rather than climate change. This idea can be reinforced by information on the excessive growth of deforested and degraded lands; For example, in the last fifteen years, Peru lost an annual average of 118 018 hectares of forest, of which approximately 45% is produced on land without legal status or right granted, and 90% of deforestation occurs through openings Of areas smaller than one hectare. The main direct drivers of deforestation are agriculture and livestock (sectoral report: Peruvian forest conservation 2011-2016, MINAM).</p> <p>Se menciona que las áreas prioritarias para la conservación de la biodiversidad están amenazadas y están asociadas a los procesos de cambio de uso de la tierra, y no tanto al cambio climático. Esta idea puede ser reforzada con información sobre el crecimiento excesivo de tierras deforestadas y degradadas; por ejemplo, en los últimos quince años, el Perú perdió un promedio anual de 118 018 hectáreas de bosques, de los cuales aproximadamente el 45% se producen en tierras sin categoría legal o derecho otorgado, y el 90% de la deforestación ocurre por aberturas de áreas menores que una hectárea siendo los principales impulsores directos de la deforestación son la agricultura y la ganadería (Informe sectorial: La conservación de bosques en el Perú 2011 - 2016 MINAM)</p>	On the reorganization of the document, based on the review processes, the reach mentioned by the reviewer was composed in other session, looking to. " <i>Distant interactions affecting nature and nature's contribution to people</i> ".
Mario Murcia	29	759	29	770	This increase in the production and demand of biomass, becomes a great opportunity and challenge for the development of new economic strategies oriented to the sustainability and efficient use of resources, such as circular economy and the bioeconomy.	Agree

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Virginia Meléndez Ramírez	30	777	30	777	Figure 5.13 Add Developing countries= , LatinAmerica=	Figures are being eddited.
Virginia Meléndez Ramírez	30	779	30	779	see to *	comment not clear
Philip M. Fearnside	31	785	31	788	For more on ecosystem services of Amazon forest see: Fearnside, P.M. 2008. Amazon forest maintenance as a source of environmental services. Anais da Academia Brasileira de Ciências 80(1): 101-114. http://dx.doi.org/10.1590/S0001-37652008000100006	Thank the reviewer for the suggestion. It was incorporated.
Philip M. Fearnside	31	793	31	797	For data and review on carbon pools see: Nogueira, E.M., Yanai, A.M.; Fonseca, F.O.R.; Fearnside, P.M. 2015. Carbon stock loss from deforestation through 2013 in Brazilian Amazonia. <i>Global Change Biology</i> 21: 1271–1292. doi: 10.1111/gcb.12798. Fearnside, P.M. 2016. Brazil's Amazonian forest carbon: The key to Southern Amazonia's significance for global climate. <i>Regional Environmental Change</i> . http://dx.doi.org/10.1007/s10113-016-1007-2 [open access].	Thank the reviewer for the suggestion. It was incorporated.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
MINAM	31	801	31	810	<p>It is mentioned that for climate change simulations they consider deforestation in large areas, or even biomes. Although the effect on the loss of local ecosystem services can lead to profound changes in climate. As a reinforcement for this idea, it can be mentioned that the dynamics of deforestation are complex, in many cases they respond to openings of very small areas that are not perceived on a large scale but which together add a great number of areas that influence the global scale; In Peru, for example, 90% of deforestation occurs due to openings in areas of less than one hectare and the main direct drivers of deforestation are agriculture and livestock (sectoral report: Peruvian forest conservation 2011-2016 MINAM) .</p> <p>Menciona que para simulaciones del cambio climático consideran la deforestación en grandes áreas, o incluso a escala de biomas, aunque el efecto sobre la pérdida de servicios ecosistémicos a escala local puede conducir cambios profundos en el clima. Como refuerzo para esta idea, se puede mencionar que la dinámica de la deforestación es compleja, en muchos casos éstas responden a aperturas de áreas muy pequeñas que no son percibidas a gran escala pero que en conjunto, suman una gran cantidad de áreas que influyen en la escala Global; en Perú por ejemplo el 90% de la deforestación ocurre por aperturas de áreas menores a una hectárea y los principales impulsores directos de la deforestación son la agricultura y la ganadería (Informe sectorial: La conservación de bosques en el Perú 2011 - 2016, MINAM).</p>	<p>The information is correct and useful. We have, although consider larger scale modelling efforts. Although we also stated that : "Climate feedback of this processes have also being shown through local observation and modeled at regional scale (Spracklen and Garcia-Carreras, 2015, Marengo et al., 2004), as a strong indication of the importance of the natural vegetation as climate regulation."</p>
David Loreto	31	808	31	810	<p>Review the quote by Mahli et al, 2008, since it is not found in section 5.10. References. Clarify how much is lost or how this loss of resilience is determined in the forests of Latin America</p>	<p>The reference was added</p>
David Loreto	31	808	31	810	<p>Review the quote by Mahli et al, 2008, since it is not found in section 5.10. References. Clarify how much is lost or how this loss of resilience is determined in the forests of Latin America</p>	<p>The reference was added</p>

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
MINAM	31	811	31	820	<p>It refers to the deforestation monitoring system in Brazil. It is possible to incorporate the System of monitoring of the forest coverage changes in Peru (GeoBosques) of the National Program of Forest conservation. (http://geobosques.minam.gob.pe/geobosque/view/index.php); Which shows that the average loss of forest cover in the Amazonian rainforest, in the period 2001-2014, was 118 081 hectares per year (Sectoral report: Peruvian forest conservation 2011-2016 , MINAM).</p> <p>Se señala sobre el sistema de monitoreo de deforestación de Brasil. Se puede incorporar el Sistema de monitoreo de los cambios de la cobertura de bosques de Perú (GeoBosques) del Programa Nacional de Conservación Bosques (http://geobosques.minam.gob.pe/geobosque/view/index.php); en el que se evidencia que el promedio de pérdida de cobertura forestal en los bosques húmedos amazónicos del país, en el periodo 2001-2014, fue de 118 081 hectáreas por año</p>	We thanks the suggestion and incorporated as another deforestation monitoring system in the Amazon region
DECO/Sbio/MMA	31	812	31	812	According to PRODES, the total loss of natural cover in Brazilian Amazon until 2016 was about 16% and it was not 19% as mentioned in the text.	This information was based on Aguar et al (2016), which considered the deforestation for a longer period than reported by the PRODES system
Diego Pacheco	33	847	37	976	What is the relationship of this section from the previous definition of scenarios of analysis. I do not see connections between the typology of scenarios (archetypes) and the discussion at the regional level, included in this section. Also, there is no clarity why these case-studies were selected and not others in order to move into the regional analysis. Seems to be very subjective and prescriptive. There is the need of a table in order to introduce the studies in the different countries.	to be addressed with the new structure
Liliana Bravo-Monroy	33	847	37	976	5.5 Informing regional futures of nature and nature's benefit to people from local studies. It would be suggested to contrast/juxtapose information with that described on Chapter 4.	new structure improve this
Liliana Bravo-Monroy	33	847	37	976	Broad generalities are provided but it would be useful including particularities according to sub-region and location.	this section will be revised to include quantifications of general trends, making it more concrete

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
María Evelinda Santiago Jiménez	33	847	34	914	While it is true that the different disciplines have a particular reading about ecosystems, today the desire to reduce those gaps has caused that intellectuals from diverse communities to converge and create interdisciplinary spaces to understand and solve environmental problems from the pluriverse; That is, from pluriversity. In this sense, subdisciplines are born as is the political ecology, an interdisciplinary and transdisciplinary space. The threat of the environmental and social crisis is a catalyst for new ways of integrating the environment. Examples are Arturo Escobar, Joan Martínez Alier, Walter Mignolo, among others.	we appreciate the effort but our section is devoted to modelling
Octavio Pérez Maqueo	33	847	37	976	I think that a systematic analysis in this section could have produced a more quantitative information. For example frequency of divers, indicators etc.	that will be included
Tanya Lazarova	33	859			Concerned 'with', not concerned 'about'	section will be revised and improved
Philip M. Fearnside	33	863	33	863	For a recent review of fragmentation effects see: Laurance, W.F., J.L.C. Camargo, P.M. Fearnside, T.E. Lovejoy, G.B. Williamson, R.C.G. Mesquita, C.F.J. Meyer, P.E.D. Bobrowiec & S.G.W. Laurance. 2017. An Amazonian rainforest and its fragments as a labor	this section will be revised to include quantifications of general trends, making it more concrete
Philip M. Fearnside	33	863	33	863	For information on deforestation drivers in Brazilian Amazonia see: Fearnside, P.M. 2005. Deforestation in Brazilian Amazonia: History, rates and consequences. Conservation Biology 19(3): 680-688. doi: 10.1111/j.1523-1739.2005.00697.x Fearnside, P.M. 2008. The roles and movements of actors in the deforestation of Brazilian Amazonia. Ecology and Society 13 (1): 23. [online] URL: http://www.ecologyandsociety.org/vol13/iss1/art23/ Fearnside, P.M. 2017a. Deforestation of the Brazilian Amazon. In: H. Shugart (ed.) Oxford Research Encyclopedia of Environmental Science. Oxford University Press, New York, USA. (In press)	this section will be revised to include quantifications of general trends, making it more concrete

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Patricia S. Vazquez	33	870	25	931	<p>In this paragraph it would be interesting to introduce the Good Agricultural Practices (GAP) (Somoza A. and Vazquez P., 2017.I. Somoza, A. y Vazquez, P. 2017. Implementación de Buenas Prácticas Agrícolas para la gestión ambiental rural. Revista RIA (en Prensa) and Ecological Practices (Vazquez P. and Vignolles M., 2015. Establecimiento agroproductivo ecológico vs. agricultura convencional. Partido de Tandil. Provincia de buenos aires. Revista Sociedade & Natureza, Uberlândia. Vol. 27. Nro 2. 267-280p.), which allow to observe the trends of agroecosystems , both socially, economically and physically or naturally, with the aim of achieving an agroecological transition. As far as GAP is concerned, it is precisely that the analysis of the GAPs is indispensable, which constitute a tool whose use seeks the ecological, economic and social sustainability of productive establishments. Taking into account the production of food safe for human consumption, with absolute privilege of respect for the environment and health of workers.</p> <p>An example of GAP are the GLOBALG.A.P. (2013), a private body that establishes, through its implementation and compliance, certifying agricultural products and has established itself in the global market as a key reference for GAP. GLOBALG.A.P. (2013) is a set of normative documents that include the General Regulation, the Control Points and Compliance Criteria and the Checklist. The Control Points and Compliance Criteria cover the entire production process of the product, from the beginning of the production process, covering all agricultural activities, until the product is removed from the establishment (Somoza A. and Vazquez P., et al., 2017). Also in Chile since 2000, there are initiatives to support the certification of private standards of Good Agricultural Practices (GAP) to facilitate access to more demanding and competitive markets (Cofre et al., 2012, Di Bella, G. and M. Cerisola , 2009, Almeida, 2008, among others). Also Uruguay, Bolivia, Mexico is beginning to implement these practices called Good Agricultural Practices.</p> <p>While in Ecological Practices this implies directly working in agricultural establishments</p>	we appreciate the effort but our section is devoted to modelling
Dalia M. Salabarría	34	886	34	893	<p>In this paragraf shoul be identified the introducción of invasive species, as a driver, because it is recognized at global level, as one of te three main cuases of biodiversity loss.</p>	we will revisit the literature to try to incorporate

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Numa P. Pavón Hernández	31	894	31	894	You should include a paragraph with an introduction explaining about the following section. For example, is no clear for me what is a indicator, and how it is different from drivers.	this section will be revised to include na introduction that improves the understanding
Dalia M. Salabarría	34	904	34	914	There is a conceptual problem, and it is that ecological and economic studies do not consider the real value of biodiversity, ecosystems and ecosystems services, as part of the economic and financial components in the economical mechanisms, never these components are included in the economic evaluation. For that I considerer that this regional assessment, should address the important and the need of the developing studies on Economic Valuation of biodiversity and ecosystem services, yo consider on the planning and program of development of developing countries.	it is not for our seccition to do that but it will be taken care in other part of the chapter
Tanya Lazarova	35	948	35	960	These paragraphs are a bit confusing and difficult to read. Perhaps they need some re-wording.	this seccion will be revised and improved
United States Government	35	953	35	957	Sentence is unclear; please consider redrafting.	this section will be revised and improved
Tanya Lazarova	36	966			Perhaps refer to figure 5.14 somewhere in the tekst	this section will be revised and improved
Diego Pacheco	38	977	67	1884	I think is very difficult to use the CF of IPBES for every subregion. Is very biased to natural factors and is missing very important information on ILK, which is very central to the IPBES conceptual framework. I suggest to delete these graphics in this biomass and in the following (figures 5.16; 5.6.2; 5.6.3; 5.6.4; 5.6.5; 5.6.6; 5.6.7; 5.6.8; 5.6.9; 5.6.10).	The wording has been improved
Brenda McAfee	38	978	38	982	The idea of preparing a conceptual framework to summarize the findings of the assessment is a great idea. An explanation needs to be given here or earlier on in the chapter as to how this was created and how to interpret the results	The framework was developed by the IPBES program and appears in guide to conducting assessments; it is not an original product of this assessment and its derivation is explained in Chapter 1.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
MINAM	38	978	38	1047, 1119, 1153, etc.	<p>In Figures 5.16; 5.20; 5.21 and 5.22 (dry forest, temperate and boreal forests and forests, Tundra and mountain prairies and tropical savannas and Granssland) within the Anthropogenic Dirvers include Climate Change. This is evidenced by the increase in climatic variability, changes in averages, and the increase in the frequency and intensity of extreme events.</p> <p>En las figuras n° 5.16; 5.20; 5.21 y 5.22 (Dry Forest; Temperate and boreal forest and Woodlands; Tundra and Mountain Grassland; and Tropiacal Savannas and Granssland), dentro de los Dirvers Antropogenicos incluir al Cambio Climático. Esto se evidencia en el incremento de la variabilidad climática, el cambios en los promedios, y el incremento en la frecuencia e intensidad de los eventos extremos.</p>	The discussed figure has been determined to be graphically impractical; the individual conceptual framework figures will be retained.
Numa P. Pavón Hernández	38	978	67	1883	I am not completely sure if these examples are appropriate for the chapter. In part it is repetitive with the contents of previous chapters.	The wording has been improved. Additionally, a cross check of the chapters will be conducted by the entire assessment team to resolve redundant information, but still insure that all necessary supporting documentation is included for each chapter.
Octavio Pérez Maqueo	38	978	67	1884	It is necessary to homogenize the information presented in this section. For example, the analysis of scenarios is done only for some ecosystems (tundra, wetlamds manglares, or grasses) and not for others. It is also important to clarify that given that there is no modelling work for these ecosystems, the results of these scenarios are the product of expert opinion (mental models).	The wording has been improved. Additionally, a cross check of the chapters will be conducted by the entire assessment team to resolve redundant information, but still insure that all necessary supporting documentation is included for each chapter.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Liliana Bravo-Monroy	38	986	39	1046	5.6 Focal issues within Units of Analysis . 5.6.1 Tropical and subtropical dry and humid forests. Trade-offs between multiple ecosystem goods and services and scale effects . 5.6.1.1 Humid Forests. Section describes some topics about deforestation and climate change. Given the purpose of Chapter 5, it would be suggested to analyse/infer/disentangle the conflicting uses between humid forests conservation and other uses (ecotourism, soybean crops, fire management in lands, etc.). It would be also interesting to also analyse trade-offs happening bewteen different users of services across scales.	The Focal Analysis section was revised, considering reviewers comments and further discussions among authors
Liliana Bravo-Monroy	38	986	39	1046	It would be valuable to also analyse synergistic uses/interactions between actors/services/scales (e.g., the choice between species diversity and carbon in a forest).	Valuable comment but too broad. The approach is considered within the text, in general
David Loreto	39	1029	39	1034	Review the quote by Huntingford et al., 2013, since it is not found in section 5.10. References. And consider the review of other evidence that points in the opposite direction, that is to say, that resilience in these forests is overestimated since so far the interactions of the variables mentioned have not been measured at the level of the entire ecosystem (Atmospheric CO2 and primary vegetation productivity).	Reference list and the rational of the science presented on the paper was included in the section 4.4.1.1; As suggested by the RE, both sides of the die-back hypothesis for the
David Loreto	39	1029	39	1034	Review the quote by Huntingford et al., 2013, since it is not found in section 5.10. References. And consider the review of other evidence that points in the opposite direction, that is to say, that resilience in these forests is overestimated since so far the interactions of the variables mentioned have not been measured at the level of the entire ecosystem (Atmospheric CO2 and primary vegetation productivity).	Reference was added. The paper refers to a modeling outcome approach.
Margarita N. Lavides	39	1030	39	1030	Correct: 'ecophysiological' to ecophysiological	Noted and completed
Margarita N. Lavides	39	1038	39	1038	Correct: 'of' to 'to', as inthe reduction of the capacity to sequester...."	Noted and completed
Octavio Pérez Maqueo	39	1043	39	1043	The figure shows strange bands in Southamerica	Figures are being editted.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Liliana Bravo Monroy	40	1047	67	1883	Comments below described are suggested for the totality of biomes/units of analyses covered: Humid forests; Dry Forest; Temperate and boreal forests and woodlands; Tundra and mountain grasslands; Tropical savannas and grasslands; Temperate grasslands; Drylands; Wetlands; Urban/Semi-Urban areas; Cultivated areas; Inland and water bodies; Coral reefs, sea grass beds and mangroves.	The wording has been improved. Additionally, a cross check of the chapters will be conducted by the entire assessment team to resolve redundant information, but still insure that all necessary supporting documentation is included for each chapter.
Liliana Bravo Monroy	40	1047	67	1883	There is valuable information through the section that could be contrasted/complemented with that presented in Ch 4. It would unify criteria and build sound integrated conceptual framework(s).	The wording has been improved. Additionally, a cross check of the chapters will be conducted by the entire assessment team to resolve redundant information, but still insure that all necessary supporting documentation is included for each chapter.
Liliana Bravo Monroy	40	1047	67	1883	Although there are trade-offs identified, it would be useful to deepening description by connecting/contrasting conflicting uses according to spatial scale, temporal scale, reversibility, users of services, etc. Analyses should be based on drivers identified in Ch 4.	The wording has been improved. Additionally, a cross check of the chapters will be conducted by the entire assessment team to resolve redundant information, but still insure that all necessary supporting documentation is included for each chapter.
Liliana Bravo Monroy	40	1047	67	1883	Generalities are mentioned as approaches to sustainability (e.g., lines 1092-1106), but the ideal could be focusing on trajectories of multiple drivers related to particular biomes and the role played by trade-offs, synergies, other interactions.	The wording has been improved. Additionally, a cross check of the chapters will be conducted by the entire assessment team to resolve redundant information, but still insure that all necessary supporting documentation is included for each chapter.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Liliana Bravo Monroy	40	1047	67	1883	Figures displayed through the section could support the text in a more dynamic way e.g., by highlighting interactions, boxes, fluxes of the framework according to the topic.	The wording has been improved. Additionally, a cross check of the chapters will be conducted by the entire assessment team to resolve redundant information, but still insure that all necessary supporting documentation is included for each chapter.
MINAM	42	1074	43	1091	It points out that effective policies to address the conversion of dry tropical forests to other uses will need to be addressed at various organizational scales. Consequently, it is recommended to remark on to define an effective and sustainable planning. It also requires making decisions based on consensus building, reconciling the various interests and needs that contribute to the sustainable use of the territory and its natural resources to achieve the maximum social and environmental benefit. Se señala que las políticas eficaces para abordar la conversión de bosques tropicales secos a otros usos necesitarán ser abordados en varias escalas organizacionales. En consecuencia, se recomienda señalar que definir una planificación eficaz y sostenible requiere tomar decisiones basadas en la generación de consenso, conciliando los diversos intereses y necesidades que contribuyen al uso sostenible del territorio y sus recursos naturales para lograr el máximo beneficio social, ambiental.	Add cooperation and coordination of ministries and departments.
Daniel P Faith		1107		1112	this idea that "tipping points may be reached that eliminate a reasoned approach to the trade-offs" is important. Faith (2011). Higher-Level Targets for Ecosystem Services and Biodiversity Should Focus on Regional Capacity for Effective Trade-Offs shows how this might be quantified	Thanks for the comment
Elizabeth Hess	43	1132	43	1133	Please adjust sentence as follows (add " more than ") as per reference (http://www.borealbirds.org/indigenous-communities-canada-boreal-forest). There are more than 600 primarily indigenous communities in the Canadian boreal region.	Noted and completed
Tanya Lazarova	45	1171			I think permafrost is not only frozen peat soil, but other types as well. So you could say ".. Mainly in the form of permafrost peatlands"	Noted and completed

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Tanya Lazarova	45	1205			Here you talk about the possible futures for the tundra under the different scenario archetypes you chose. Perhaps this could also be done for sections 5.6.1.1, 5.6.1.2 and 5.6.2?	Thank you for this comment
Giselda Durigan	46	1226	50	1347	The Agriculturalization of the Brazilian Cerrado is one of the major cases of ecosystem transformation in crops and deserves more attention. Recent studies have addressed this issue, such as: Strassburg, B. B., Brooks, T., Feltran-Barbieri, R., Iribarrem, A., Crouzeilles, R., Loyola, R., ... & Soares-Filho, B. (2017). Moment of truth for the Cerrado hotspot. <i>Nature Ecology & Evolution</i> , 1, 0099.	Agree. This is a correct and interesting support to the concept of "agriculturization". By the way, the concept emerged from the unsustainability syndromes. Navarrete et al , 2009. Multi-causal and integrated assessment of sustainability: the case of agriculturization in the Argentine Pampas. <i>Environment, Development and Sustainability</i> , June 2009, Volume 11, Issue 3, pp 621–638
Tanya Lazarova	46	1229	47	1236	The first paragraph of section 5.6.4 does not fit very well here and perhaps can be moved a bit later, for example after line 1288, p. 49. In order to be consistent with the previous sections on other UAs, you can start with a description of the Unit of Analysis, rather than general information on agriculture. The paragraph can also fit in section 5.6.9 on Cultivated areas.	Agree. We suggest to move to the section indicated after the SDO.
Luis Ubaldo Castruita Esparza	47	1244	47	1247	Figure 5. 23. The map simbology is ilegible and it could be changed for other legible	We are looking for a better map for design, but is relevant to sustain here till this.
Margarita N. Lavidés	47	1251	47	1251	Correct: 'producing' to produced	Agree. This will need to be corrected to produced. Thank you.
The Biodiversity Indicators Partnership (BIP)	48	1259	48	1261	Good use of https://www.nature.com/articles/sdata20167 , but change "UNEP" to "IPBES" on Line 1259.	Thank you. Yes, we need to replace UNEP to IPBES.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Thomas Brooks	48	1259	48	1261	Good use of https://www.nature.com/articles/sdata20167 , but change "UNEP" to "IPBES" on Line 1259.	Thank you. Yes, we need to replace UNEP to IPBES.
The Biodiversity Indicators Partnership (BIP)	48	1261	48	1264	Good use of Han et al. (2014)	Thank you.
Thomas Brooks	48	1261	48	1264	Good use of Han et al. (2014)	Thank you.
Guiomar Nates-Parra	48	1266		1267	Yes, they are. exampl: <i>Tremarctos ornatus</i> , <i>Vultur gryphus</i> , <i>Bombus excellens</i> , <i>B. atratus</i> , <i>Trichechus inunguis</i> The IUCN Red List of Threatened Species. Version 2017-1. < www.iucnredlist.org >. Downloaded on 08 June 2017. Please, see http://www.grupoprodeco.com.co/informesostenibilidad2014/pdf/anexos.pdf	Agree with the concept. But we prefer no to go in deep in descriptions of specific species in this case. They are no relevant here.
Dalia M. Salabarría	48	1267	34	1268	The recognition of the important of recording and documentation of trends related with the high pressure on endemic and threatened species in this highly diverse region, should be addressed in the Summary Report for Decisors, and consider specially the biodiversity richness in the Caribbean islands.	I prefer no to incorporated in this chapter a summary here.
The Biodiversity Indicators Partnership (BIP)	48	1267	48	1267	At the end of this sentence, add "the development of the new SISconnect tool, for linking national red lists to the global Red List, should greatly facilitate this, as will the new decision to allow incorporation of global Red List assessments in multiple languages"	This is no the section where to incorporated the suggestion. That is usefull but no here, where we are no reviewing actions instead of trends.
Thomas Brooks	48	1267	48	1267	At the end of this sentence, add "the development of the new SISconnect tool, for linking national red lists to the global Red List, should greatly facilitate this, as will the new decision to allow incorporation of global Red List assessments in multiple languages"	This is no the section where to incorporated the suggestion. That is usefull but no here, where we are no reviewing actions instead of trends.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Philip M. Fearnside	49	1273	49	1288	In discussing savanna loss, in addition to Chaco and Cerrado that are mentioned, the Amazonian savannas, such as the lavrado of Roraima, should also be mentioned. See: Barbosa, R.I., C. Campos, F. Pinto & P.M. Fearnside. 2007. The "Lavrados" of Roraima: Biodiversity and Conservation of Brazil's Amazonian Savannas. <i>Functional Ecosystems and Communities</i> 1(1): 30-42.	Thank you. The reference is usefull to open to the view of diversity of savannas, including in the Amazon region. OK.
Tanya Lazarova	49	1289			I guess it woulc be better to say "Glasslands IN current scenario and regional analyses"	Thank you. We will change the paragraph to this: The issue is generating two syndromes that affect sustainability of grasslands in currents scenario and regional analysis of agriculturisation and pampeanisation (savannisation) (Pengue 2005, Navarrette et al., 2007).
Tanya Lazarova	49	1291			the word "changes" is double	Thank you. We will correct it.
Ederson A Zanetti	50	1317	50	1318	There should be mention to wood energy consumption at its relation to chaco, species should be mentioned	Wood energy in the current context is no a relevant issue. In terms of wood consume is a subproduct of deforestation. High quality trees such as <i>Prosopis alba</i> , <i>Prosopis nigra</i> , <i>Enterolobium contortisiliquon</i> , <i>Aspidosperma quebracho blanco</i> , etc., are being down, just only as result for consuming more land, no wood.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Philip M. Fearnside	50	1320	50	1320	In discussing commodities, need to mention the dramatic effect of exports to China, both of soy and beef. See: Fearnside, P.M., A.M.R. Figueiredo & S.C.M. Bonjour. 2013. Amazonian forest loss and the long reach of China's influence. Environment, Development and Sustainability 15(2): 325-338. doi: 10.1007/s10668-012-9412-2. Fearnside, P.M. & A.M.R. Figueiredo. 2016. China's influence on deforestation in Brazilian Amazonia: A growing force in the state of Mato Grosso. pp. 229-265. In: Rebecca Ray, Kevin Gallagher, Andres López & Cynthia Sanborn (eds.) China and Sustainable Development in Latin America: The Social and Environmental Dimension. Anthem Press, New York, USA. 367 pp.	Yes. Thank for the references, that will be incorporated in the document.
Margarita N. Lavidés	50	1329	50	1334	While IPBES Regional Assessment does not intend to prescribe specific policy, but it would be good to give an example of a design of policy interventions that manage potential outcomes within the coming 10-30 years, with different aspects of policies being important at different space and time scales, at the end of the paragraph at this section.	In this section and chapter, this approach to prescribe specific policy is not the main goal. Another models are doing so, and perhaps this will be approach to follow.
United States Government	51	1351	51	1352	Recommend that this sentence state simply that there are pressures on the region's natural resources rather than try to identify specific ones.	At the Regional Dialogue meeting, many of the Country Focal Points actually asked for more specificity, not less.
Tanya Lazarova	51	1353			Remove abbreviation here - HANPP - as it is not used anywhere else in the chapter	HANPP will be replaced with the complete name: Human appropriation of net primary productivity
Ederson A Zanetti	52	1375	52	1378	There should be mention to the increase on forest plantations within this biome and at all quoted countries	Yes. Thank you. Plantations are not forest. We will change the sentence to this one, on line 1375: Processes like forest clearing for creating pastures, forest plantations and agricultural land are still important
Tanya Lazarova	52	1388			What is ECLAC?	ECLAC: Economic Commission for Latin America and the Caribbean of United Nations

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Tanya Lazarova	53	1396			I guess "so" can be removed?	Agree. Thank you. We will remove it.
Virginia Meléndez Ramírez	53	1396	53	1400	Add social, economic and ecological problems of transgenic crops.	Agree. But we can mentioned the emerging papers that are starting to show that impacts: eg: Herbicide resistance and biodiversity: agronomic and environmental aspects of genetically modified herbicide-resistant plants, Schutte, G. et al 2017. Environ Sci Eur. 2017; 29(1): 5.
United States Government	53	1396	53	1400	These sentences go beyond the mandate of IPBES are biased and unbalanced. Please delete.	We decided to leave the message, being as neutral as possible, to illustrate the effect or impacts that technological advancements (i.e., transgenics), have on biodiversity and ecosystem services; in this case on agro-biodiversity.
Tanya Lazarova	53	1400			What is a Damocles sowl?	Agree with change to this new sentence: So in USA, Canada or Argentina, weed resistance is a rising problem that generates new agronomic, economic and ecological changes under the current industrial agricultural intensification.
Virginia Meléndez Ramírez	53	1402	53	1427	Add for Mesoamerica	We cannot do this here for reasons of space and IPBES guidance.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Guiomar Nates-Parra	53	1405			I think it is important, because Colombia is the first country to generate an Ecosystems Red List: http://www.humboldt.org.co/es/boletines-y-comunicados/item/692-lista-roja-eco http://cmsdata.iucn.org/downloads/sintesis_final_lre_colombia__1_.pdf	We cannot do this here for reasons of space and IPBES guidance.
Virginia Meléndez Ramírez	53	1411	53	1411	Check 30 000 sp of plants	This information is repeated from Chapter 3 for emphasis; Chapter 3.3.1 is the reference.
Virginia Meléndez Ramírez	55	1418	55	1539	Add for Mesoamerica and South america	We cannot do this here for reasons of space and IPBES guidance.
United States Government	54	1424	54	1427	How does this paragraph support the rest of the section? It does not specifically address biodiversity or NCA, and is not balanced as it focuses on one specific region. Please delete.	Noted and completed
Tanya Lazarova	54	1429			Section 5.6.7 on wetlands is very long compared to the previous sections on other Units of Analysis. Isn't a lot of this information already covered by the chapter on status and trends anyways? (I haven't read it but I would assume so)	The wording has been improved. Additionally, a cross check of the chapters will be conducted by the entire assessment team to resolve redundant information, but still insure that all necessary supporting documentation is included for each chapter.
Dalia M. Salabarría	54	1443	54	1446	I suggest to mention here, the important and determinant role of coastal wetlands in small islands, starting with the main physical protection to the litoral zone.	Shoreline protection as a NCP is addressed in other chapters and is more fully addressed in Chapter 5 under mangroves, but it is now noted briefly under wetlands.
Royal Gardner	55	1452	55	1482	Note that the WET Index discussed in Dixon et al. (2016) is being currently updated by UNEP-WCMC at the request of Ramsar, and the new data will include Latin America and the Caribbean for the first time. This data should be available soon.	Thank you for this comment and we will address if time allows.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Elizabeth Hess	55	1462	55	1462	Need to add " federal " in this sentence. Canada has no specific federal legislation protecting wetlands. Some provinces do have legislation that protects wetlands since under the constitution the provinces are responsible land managers	Noted and completed
Elizabeth Hess	55	1463	55	1463	Need to change the word "crown" to "federal". The policy is applicable to federal lands, not crown lands. Crown lands could be those owned by provinces and territories, but this policy is not applicable to those lands.	Noted and completed
Elizabeth Hess	55	1474	55	1478	Is Mexico included in this study given it is comparing continents (Africa, Asia, and Europe along with north America	Not in this particular reference. For IPBES, Mexico is considered part of the Meso-America.
The Biodiversity Indicators Partnership (BIP)	55	1474	55	1478	These figures from the Wetland Extent Trends (WET) Index will be updated by end-June and will cover wetland loss from 1970-2015. The regional loss for Latin America and the Caribbean will also be calculated for comparison. In the reference list, the Dixon et al 2016 citation we need to state that the figures are based on updated data. Preliminary results show a 18% loss from 1970-2015 and a levelling off of wetland loss from 2002-2015. These results still need to be validated.	Thank you for this comment and we will address if time allows.
Royal Gardner	56	1511	56	1511	The date of the EPA publication should be 2016. It is based on data collected in 2011.	The citation is correct, this is the report based on 2004-2009 data.
Royal Gardner	56	1516	56	1517	What is the reference or support for the statement that wetland conservation has significant negative consequences?	I agree with the concerns inherent to this comment. However, the intent of the statement is that wetland conservation may have negative impacts due to the trade-offs between wetland conservation and other human needs, e.g. healthy floodplain forests vs. jobs provided by sustainable timbering in these areas, but clearly my point is not clear. The section has been deleted.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Tanya Lazarova	57	1521			Perhaps in this paragraph, you can refer to the scenario archetypes with the full name "scenario archetypes", or "archetypes", rather than just "scenario" to avoid confusion. For example in line 1526, you say "MF scenario". Also, perhaps would be better to spell out the whole name of the scenario archetypes (MF - Marcet Forces), to make it easier to read.	Noted and completed
Rosa María Chávez Dagostino	57	1541			Fig 5.30 Water treatment plants are important anthropogenic assets in urban units	Noted and completed
Tanya Lazarova	57	1542			What does "Driver 2" in figure 5.30 mean?	Placeholder; will delete from final figure.
Tanya Lazarova	59	1582			Perhaps you can put section 5.6.9 on cultivated areas close to sections 5.6.4 and 5.6.5, which talk a lot about converting grasslands to agricultural areas. I think it could provide a better flow to section 5.6	The structure of the Chapter was changed according to revision process suggestion.
Virginia Meléndez Ramírez	59	1582	60	1617	Add for Mesoamerica and North America	We cannot do this here for reasons of space and IPBES guidance.
Octavio Pérez Maqueo	59	1582	60	1617	Unlike the other ecosystems analyzed in this section, agriculture is analyzed as a driver and not as an impacted system. Perhaps it would be better to emphasize aspects such as the impact that has been had on crop and cultural diversity.	Thanks for the comment. Other assessments, e.g. Pollinization, look to the agriculture system as beneficiary of Nature Contributions

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
DECO/Sbio/MMA	59	1590	59	1592	<p>The data produced by Brazilian government is related to "Amazônia Legal", that is a Brazilian political subdivision corresponding to an area larger than the Amazon biome in the Brazilian territory, and which includes the entire states of Amazonas, Pará, Acre, Roraima, Rondônia, Amapá, Tocantins, Mato Grosso, and part of Maranhão, totaling approximately 5.1 million km². The Legal Amazon encompasses Amazon forest and transitional vegetation, while the Amazon biome within Brazil corresponds to approximately 4.1 million km² covered exclusively with Amazon forest. So, for Brazil, the most accurate data for Amazon is given for Legal Amazon.</p> <p>The total loss of the Legal Amazon in Brazil due to agricultural conversion is 5,9% according Terraclass Amazonia - 2014 (available in http://www.inpe.br/cra/projetos_pesquisas/arquivos/TerraClass_2014_v3.pdf). The information of the text (20%) is not the same of that official data from Government of Brazil.</p> <p>The total loss of the Cerrado in Brazil due to agricultural conversion is 11,69% according Terraclass Cerrado - 2013 (available in http://www.mma.gov.br/publicacoes/biomas/category/62-cerrado?download=1139:mapeamento-do-uso-e-cobertura-da-terra-do-cerrado). The information of the text (50%) is not correct</p>	Thanks for the information. The data was based in the literature (Aguiar et al., 2012, Bustamante et al., 2012), that consider agricultural activities (e.g, agriculture and beef production/pasture) on the replacement of native vegetation.
Giselda Durigan	59	1591	59	1591	The expression "Savannah dry forest" does not make sense. Please, delete "dry forest"	With the new structure of the text, the world Savannah was deleted.
United States Government	59	1606	59	1060	What is a "peak farm"?	This was an mistake, the reference was withdrawn. Thank you for the comment.
Tanya Lazarova	60	1619			This section does not say anything about biodiversity in freshwater ecosystems, it only talks about human demand for water and its drivers.	A substantial discussion has been added.
United States Government	60	1619	61	1666	Please clearly connect these issues to the make clear how they impact the main focus on IPBES - biodiversity and ecosystem services.	The new structure of the chapter hopefully makes this clearer
Tanya Lazarova	60	1622			What are "Driver 1" and "Driver 2" in figure 5.32?	Placeholder; will delete from final figure.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Tanya Lazarova	62	1668			Section 5.6.11 is really long compared with the previous sections on other Units of Analysis. Perhaps the parts on the benefits of mangroves and seagrasses could be shortened a bit, isn't this already covered in other chapters? (I have not read them though)	The wording has been improved. Additionally, a cross check of the chapters will be conducted by the entire assessment team to resolve redundant information, but still insure that all necessary supporting documentation is included for each chapter.
Royal Gardner	62	1673	63	1690	For a more recent assessment of mangrove extent based on EO, see Thomas N., Lucas R., Bunting P., Hardy A., Rosenqvist A. and Simard M. (2017). Distribution and drivers of global mangrove forest change, 1996–2010. PLOS ONE 12(6): e0179302. https://doi.org/10.1371/journal.pone.0179302	Thank you for this comment
Virginia Meléndez Ramírez	63	1701	63	1708	Add for Mesoamerica and Noth america	Thank you for this comment
Royal Gardner	63	1717	64	1729	This discussion overemphasizes the short-term benefits of mangrove conversion. See Figure 2.3 and accompanying discussion in TEEB for Water & Wetlands http://www.teebweb.org/areas-of-work/biome-studies/teeb-for-water-and-wetlands/ for a more balanced and comprehensive consideration of the issue.	The IPBES framework addresses the complete suite of nature's benefits to humans and is why such ecosystems as urban areas and agro-ecosystems are considered. Inherent to the program is that Units of Analysis will, in fact, be used in a manner of tradeoffs (though I can't say I completely agree with this approach). Thus, I think it appropriate to consider some of the short-term uses of the UAs to fulfill the complete array of NCPs; I don't believe that two sentences out of this whole section is overemphasizing short term benefits.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Diego Pacheco	68	1885	70	1978	So far I do not see connections in this chapter between the scenarios and the discussion of issues by subregions and biomes. Therefore, the pathways developed are very confused. The discussion of SDGs and Aichi targets should be undertaken in this section in a more specific way. SDG by SDG and Aichi target by Aichi target. As it is now is very general.	The development of the approach to Aichi Targets and SDGs was discussed in the SPM meetings at the TAM and at this point the approach to them is being developed by Chapter 2 and a designated task force the results of which are not yet available and may not be so in time to fully incorporate into this chapter.
Liliana Bravo Monroy	68	1885	77	2261	5.7 Visions and pathways . Generalities are provided through the section with interesting contextual information (e.g., ILK). It would be suggested that section is based on in-depth analysis of the drivers/dynamics of the interactions between main elements in a particular biome, with the aim of identifying possible pathways to achieve long term 2050 vision of the Strategic Plan for Biodiversity.	The development of the approach to Aichi Targets and SDGs was discussed in the SPM meetings at the TAM and at this point the approach to them is being developed by Chapter 2 and a designated task force the results of which are not yet available and may not be so in time to fully incorporate into this chapter.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
MINAM	68	1891	68	1900	<p>It is mentioned that the focal analyzes carried out, give indicators of the complexity of determining the best use of natural capital. Although international efforts (Aichi Objectives, ODS) are mentioned to address these problems, efforts should be made that each country develops (which ultimately add to the Aichi or ODS Objectives) such as territorial planning processes, classification Of land for its greater use capacity, Forest Zoning, Ecological and Economic Zoning, among others, whose objectives point to the orderly occupation of the territory and the sustainable use of its resources.</p> <p>Se menciona que los análisis focales realizados, dan indicadores de la complejidad de determinar cuál es el mejor uso del capital natural. Si bien, se mencionan esfuerzos internacionales (Objetivos de Aichi, ODS) para abordar estos problemas, se debieran mencionar esfuerzos que cada país va desarrollando (que finalmente, suman a los Objetivos de Aichi u ODS) tales como los procesos de Ordenamiento territorial, Clasificación de la tierra por su capacidad de uso mayor, Zonificación Forestal, Zonificación Ecológica y Económica, entre otros, cuyos objetivos apuntan a la ocupación ordenada del territorio y uso sostenible de sus recursos.</p>	Acknowledgement of the need for mainstreaming has been added in servaral places, including the concluding section in Visions and Pathways as a main bullet point.
MINAM	68	1904	68	1905	<p>Reference is made to the Sustainable Development Objectives, and as they complement the Aichi goals. However, taking into account the international framework of Climate Change, it could highlight the synergies with the 13 ODS and the Paris Agreement.</p> <p>Se hace referencia a los Objetivos de Desarrollo Sostenible, y como se complementan con las metas de Aichi. Sin embargo, tomando en cuenta el marco internacional de Cambio Climático se podría resaltar las sinergias con el ojetivo 13 ODS y el Acuerdo de Paris.</p>	Acknowledgement of the need for mainstreaming has been added in servaral places, including the concluding section in Visions and Pathways as a main bullet point.
Tanya Lazarova	68	1908			Perhaps here instead of "building scenarios", you could just talk about "scenarios" in order to include both scenario building and assessment of existing literature on scenarios (both can be used to support decision-making).	Thank you for this comment

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
MINAM	68	1915	68	1918	The challenge of building scenarios with local relevance for decision makers is pointed out. It should be pointed out that these decisions should be articulated to strategic planning processes, not just specific interventions. Se hace mención al desafío que representa el construir escenarios con relevancia local para los tomadores de decisiones, cabe precisar que estas decisiones deben estar articuladas a procesos de planeamiento estratégico y no sólo a intervenciones puntuales.	The wording has been improved
United States Government	68	1915	68	1918	What is meant by "storylines" here? Please clarify.	The term has been replaced with "scenarios" for consistency and clarity.
Diego Pacheco	69	1930	69	1931	This graph does not help articulating previous discussion with the pathways, since introduce again new definitions of archetypes and scenarios in the context of 3 options. What is the relationship with previous archetypes?	It has been clarified in the text, including in the concluding section on Visions and Pathways, that the table is intended to reinforce the idea that given over 400 scenarios already appear in the literature, that effort should be made by practioners to attempt to integrate them rather than producing more.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Margarita N. Lavides	69	1936	70	1978	Philanthropic organizations and other similar donors that support biodiversity conservation and natural resource management should be included in the Essential Stakeholder Group. Often, they are instrumental in the production, dissemination and adoption of essential environmental and social innovation including generation of conservation science useful for conservation policy and practice. For example, many of the thought leadership and practice of Impact Investing for conservation and resource management was pioneered by Rockefeller Foundation and recently a huge investment put by Ford Foundation. While the total pot of money provided by philanthropic organizations may be small compared with global or regional funds put to conservation, but certainly, more than funds, they continue to provide guidance and serve as catalysts in generating knowledge and environmental and social innovations.	Under the common useage of IPBES, organizations such as philanthropic groups are included in the category of "Civil Society", along with scientific organizations, universities, benevolent societies, trade unions, etc., each of which can make significant contributions to scenario development. However, a small amount of wording has been added to clarify "Civil Society", as it seems to be not a widely recognized term.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Mario Murcia	69	1937	70	1978	<p>On the other hand, it is important to understand that innovation and community action are two important strands for sustainable development. Yet they have not hitherto been linked. Community action is a neglected, but potentially important, site of innovative activity bridging this divide offers a novel theoretical approach to the study of community-level action for sustainability. The opportunities presented by grassroots innovation are discussed, as are the challenges confronting activity at this level, and a new agenda for community-level sustainable development research and policy.</p> <p>The term 'grassroots innovations' is used to describe networks of activists and organisations generating novel bottom-up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved. In contrast to mainstream business greening, grassroots initiatives operate in civil society arenas and involve committed activists experimenting with social innovations as well as using greener technologies.</p> <p>Policy and research into grassroots innovations must nurture mutually beneficial relationships for improve local economies centralized in their biocultural assets (natural capital).</p> <p>How to create and capitalise on grassroots diversity and populate mainstream systems of production and consumption with transformative sustainability ideas and practices? This is the central research and policy question.</p> <p>Taken from: Grassroots Innovations for Sustainable Development: Towards a New Research and Policy Agenda. GILL SEYFANG* & ADRIAN SMITH** *Centre for Social and Economic Research on the Global Environment (CSERGE), University of East Anglia, Norwich, UK, **SPRU (Science & Technology Policy Research), University of Sussex, Brighton, UK</p>	Under the common useage of IPBES, "grass roots" organizations are included in the category of "Civil Society", along with scientific organizations, conservation organizations, universities, benevolent societies, trade unions, etc., each of which can make significant contributions to scenario development. However, a small amount of wording has been added to clarify "Civil Society", as it seems to be not a widely recognized term.
Numa P. Pavón Hernández	69	1941	69	1941	What are the differences between Local Population and Civil society?	In IPBES useage, local populations refer primarily to individuals, while Civil Society referes to formal or informal groups and organizations.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Margarita N. Lavidés	70	1958	70	1960	Include SDG14 Life Below Water as fisheries, aquaculture and other aquatic based livelihood also involve the business community especially, at industrial level.	Noted and completed
Diego Pacheco	70	1979	71	2012	In the development of pathways and visions in the Americas is important to introduce a more prominent role to the ILK, practices and technologies of indigenous peoples and local communities, including their worldview of living-well in balance and harmony with Mother Earth, although there are important considerations in the next paragraphs.	We cannot do this here for reasons of space
Tanya Lazarova	70	1979			Here it could be useful to consult the First Order Draft of Chapter 5 of the Global Assessment, which is on target-seeking scenarios and pathways to sustainable futures. I can provide you with the contact details of the experts leading the review of scenarios in the Americas.	The bullet item under the new section of conclusions related to Pathways and Visions that addresses Aichi Targets, the Paris Accord, and SDGs now acknowledges target-seeking scenarios and potentially fruitful effort.
Krista Locs	71	2014	71	2014	Suggest including information on the traditional knowledge target (Target 15) and customary use target (Target 12) of the 2020 Biodiversity Goals and Targets for Canada.	Additional information on Canada has been added under Tundra and Cryosphere; recognition of the 2020 Biodiversity Goals and Targets for Canada are incorporated by reference into the discussion on caribou.
Krista Locs	71	2014	71	2014	Suggest including information on the traditional knowledge target (Target 15) and customary use target (Target 12) of the 2020 Biodiversity Goals and Targets for Canada.	Additional information on Canada has been added under Tundra and Cryosphere; recognition of the 2020 Biodiversity Goals and Targets for Canada are incorporated by reference into the discussion on caribou.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Tanya Lazarova	71	2014			In a lot of places of this section there are capital letters used in places where they should not be used and missing punctuation. Perhaps double-check? Also, throughout the entire section 5.7.1, there are quite a lot very long sentence, which makes it difficult to read and some words seems like they are still in Spanish.	Noted and completed
United States Government	71	2014	71	2186	As drafted, the section on ILK visions and futures is not clear. We recommend redrafting to improve the message and flow.	The wording has been improved
Octavio Pérez Maqueo	71	2014	75	2185	The whole section "5.7.1. ILK visions and futures given impact interventions in their territories" is interesting and very important for the assessment. However it needs major language review.	The wording has been improved
Diego Pacheco	71	2015	75	2185	It is important to highlight here the recognition in many countries of the ILO 169 Covenant and the United Nations Declaration on the Rights of Indigenous Peoples, as a way to promote a different perspective for indigenous peoples in the region, with the full recognition of rights, and moving into their implementation. In this context is important to point out that many rights are already implemented in many countries: right to their territories, right to self.governance, etc.	The wording has been improved
Tanya Lazarova	71	2015	71	2029	This paragraph should be re-written as it is currently very difficult to read and udnerstand. The frist two sentences especially are very long and confusing.	The wording has been improved
Margarita N. Lavides	71	2019	71	2020	The sentence should read as follows: For diversity and origin, the ILK turns out to be dynamic both in time and space thus, are intimately tied by them to the regimen of territorial appropriation (assets, public property) (Empeaire, 2016). It is also tied to determinant aspects especially in the conservation of agrobiodiversity and the genetic resources related to the territories of indigenous peoples in Americas.	The wording has been improved
Margarita N. Lavides	71	2023	71	2025	The sentence does not make sense: "It is important to recognise.....on the biodiversity and their benefits (Chindoy, 2016)".	The wording has been improved
Margarita N. Lavides	71	2025	71	2029	The sentence should read as follows: " The indigenous Peoples accumulate detailed information about the environment, to orient use and management of the resources and to develop visions of the world.....can be applied to different scales".	The wording has been improved

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Numa P. Pavón Hernández	71	2025	71	2025	You have included a discussion about the role of indigenous people until the last section. I think that is a core part of the chapter.	The wording has been improved
Krista Locs	71	2030	71	2033	The correct title should be used "the Strategic Plan for Biodiversity 2011-2020". Also suggest rewording as follows: "Target 18 of the Strategic Plan for Biodiversity 2011-2020 reflects the importance of the customary sustainable use of biological resources, and of the traditional knowledge, innovations and practices of Indigenous peoples and local communities for the conservation and sustainable use of biodiversity: "Target 18 - By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.". This target supports the overarching vision of the Strategic Plan for Biodiversity 2011-2020 which is "a world of "Living in harmony with nature" where "By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people."	The wording has been improved
Numa P. Pavón Hernández	72	2040	72	2040	You could to considered like an ecosystem services	We do not understand this comment
Brenda McAfee	72	2046	72	2062	This paragraph addresses primarily South and Meso America sub-regions. First sentence should specify this rather than referring to "In America".	Thank you for this comment
Tanya Lazarova	72	2057			In several places of section 5.7.1 "your" is used inappropriately, including in this sentence. What do you mean by "your territories?"	The wording has been improved
Tanya Lazarova	72	2063	72	2067	Perhaps you can remove this paragraph, I don't think it adds much	The wording has been improved
Tanya Lazarova	73	2088			Remove "los"	The wording has been improved

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Margarita N. Lavidés	73	2090	73	2094	The sentence should read as follows: " Aichi Target 16 refers to acces to and sharing benefits from genetic resources. The Nagoya Protocol aims to provide users, producers of genetic resources and holders of traditional knowledge in all countries with greater legal certainty, clarity and transparency. Only ten countries in Latin America and the Caribbean have acceded or ratified the Nagoya Protocol(CBD, 2017).	The wording has been improved
Tanya Lazarova	73	2090	73	2094	Is this supposed to be one sentence? It is quite confusing at the moment.	The wording has been improved
Tanya Lazarova	73	2090			Remove "the" from "the Target"	The wording has been improved
Margarita N. Lavidés	73	2096	73	2111	The sentence should read as follows: "On Aichi Target 18 on traditional knowledge, the following has not yet been achieved: an active participation of the indigenous Peoples in terms of innovation, access to traditional practices, legislation and territorial management. The advances in the region are related to processes of consultation with and involvement of indigenous Peoples in specific projects of conservation and development.....(UNEP=WCMC, 2016)".	The wording has been improved
Margarita N. Lavidés	73	2104	73	2104	The following phrase remained not translated in English language: "el cual busca"	The wording has been improved
MINAM	73	2104	73	2104	Standardize language: "which seeks" Uniformizar idioma: "el cual busca"	The wording has been improved
Tanya Lazarova	73	2109	73	2111	Correct the punctuation and spacing in this sentence. Also, re-word sentence, as currently it sounds confusing.	The wording has been improved
María Evelinda Santiago Jiménez/ Instituto Tecnológico de Puebla	73	2112	73	2119	Tourism is an educational tool for travelers and locals provoking the interaction between local and visitors, the exchange of knowledge, empathy, solidarity, among others. An interesting example is offered by Tosepan Kali de Cuetzalan, Puebla: https://www.tosepankali.com/v2/ Otro ejemplo es el hotel Taselotzin, administrado por mujeres indígenas Nahuas: http://taselotzin.mex.tl/frameset.php?url=/intro.html	Thank you for this comment
Tanya Lazarova	74	2120			What is COICA?	The wording has been improved

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Tanya Lazarova	74	2123			What are "communities bioculturales"?	The wording has been improved
Tanya Lazarova	74	2130			Where do the quotation marks end?	The wording has been improved
Margarita N. Lavides	74	2143	74	2143	Correct: 'incluyes' to includes	The wording has been improved
Tanya Lazarova	74	2143			Change Incluyes to includes	The wording has been improved
María Evelinda Santiago Jiménez/ Instituto Tecnológico de Puebla	74	2143	74	2151	http://www.tosepan.com/products.htm	Thank you for this comment
Margarita N. Lavides	74	2155	74	2159	The sentence does not make sense: "The information management about ILK (related to Target 19), is related to the planning.....biodiversity and the NBP.	The wording has been improved

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
MINAM	74	2159	74	2160	<p>The importance of traditional knowledge (local and indigenous) is highlighted; in this case, it is recommended to incorporate the experience of the National Service of Meteorology and Hydrology (SENAMHI) systematized in the WILLAY Book, measuring time without instruments; In which it recognizes ancestral knowledge of the climate as a source of information for the management of climatic risks in the peruvian andes; (Http://www.cooperacionsuizaenperu.org.pe/images/documentos/desafios/2017/CLIMA/CLIMANDES/willay_small.compressed.pdf)</p> <p>On the other hand, the Regional Government of Huancavelica has the document: "Ancestral Knowledge and Adaptation to Climate Change in High Andean Communities of the Huancavelica Region", focuses on the collection, analysis and comparison of bibliographical information with practices, testimonies and beliefs used by peasants and farmers to predict extreme weather variations (frost, snowfall, hail, torrential rains, droughts, among others). (Https://drive.google.com/file/d/0B0973-lpXaNxb1ZiM2Y4eEo2dEU/view?usp=sharing)</p> <p>Se resalta la importancia de los conocimientos tradicionales (locales e indígenas), al respecto se recomienda incorporar para el caso del Perú la experiencia del Servicio Nacional de Meteorología e Hidrología (SENAMHI) sistematizada en el Libro WILLAY, midiendo el tiempo sin instrumentos; en la que reconoce el conocimiento ancestral del clima como fuente de información para la gestión de los riesgos climáticos en los Andes del Perú; (http://www.cooperacionsuizaenperu.org.pe/images/documentos/desafios/2017/CLIMA/CLIMANDES/willay_small.compressed.pdf)</p> <p>Por otro lado el Gobierno Regional de Huancavelica cuenta con el documento: "Conocimientos Ancestrales y Adaptación al Cambio Climático en Comunidades Altoandinas de la Región de Huancavelica", se centra en la recopilación, análisis y comparación de información bibliográfica con las prácticas, testimonios y creencias</p>	Thank you for this comment

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Tanya Lazarova	73	2160			Remove "to" from "to 32 indigenous lands"	The wording has been improved
Margarita N. Lavides	75	2166	75	2167	The sentence does not make sense: "The conviviality.....socio-espatials".	Orthographic correction
Margarita N. Lavides	75	2173	75	2174	The sentence should read as follows: " It is necessary to recognize the role of indigenous communities in biodiversity conservation using ILK, for both science and society".	The wording has been improved
Margarita N. Lavides	75	2173	75	2185	I think the content of these bullet points should be rewritten according to the real meaning in its original language. As it is, most of it might send wrong meaning or message.	The wording has been improved
Margarita N. Lavides	75	2175	75	2177	I think the content of this bullet point is poorly translated to English language.	The wording has been improved

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Guiomar Nates-Parra	75	2187			<p>Please, see: Indiana Ramírez-Nates, and Margarita Serje. "La Maldición Del Paraíso: Tenencia y Territorialidad En El Parque Nacional Natural Tairona." <i>Desarrollo y Conflicto: Territorios, Recursos y Paisajes En La Historia Oculta De Proyectos y Políticas</i>, 1st ed., Universidad De Los Andes, Colombia, 2010, pp. 187–216. JSTOR, www.jstor.org/stable/10.7440/j.ctt18pkgd7.8. This is another example of tourism management of a National park in Colombia and its social and environmental implications.</p>	<p>In fact, it's another example, but in the suggested article the author focus on the governability issues due to the presence of illegal forces and landowners, and how they use the tourism as profitable source of income for them. Even tough the article has similarities with this case, there are important differences on the context (Jovi it's not part of a National Park) and the current case focus on the tourism trades-off on the agrodiversity and cultural practices. Therefore, I consider that including this reference it would change the objective of the contribution and it would demand to include data, that it was not originally part of the study, such as: the relation of the inhabitants with the illegal forces and the hotel owners</p>

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Mario Murcia	75	2187	77	2261	<p>In order to tackle ecotourism’s negative externalities in Colombia and the Americas, we could take advantage of the intrinsic connection between cultural heritage and biodiversity knowledge of local populations. Colombian indigenous and Afro-descendant communities have a comprehensive knowledge of their own biodiversity. As this knowledge on biodiversity is transversal to their BioCultural assets – fishing, gastronomy, traditional medicine, folklore, among others –, tourism should not be focused only on sight-seeing, but on the knowledge derived natural-cultural activities. If diverse stakeholders – from local communities to local and national policy-makers – are engaged in bio-cultural-tourism activities, the trade-off between poverty reduction through tourism and heritage lost might disappear. On the contrary, bio-cultural-tourism would be able to: i) enhance ancestral knowledge and local identity; ii) conserve local natural capital; iii) improve local economies ; iv) tackle poverty.</p> <p>For example, some of Colombian biodiversity “hotspots” coincide with historical conflict areas. As the peace process is arriving at its final stages, bio-cultural-tourism emerges both as an opportunity to reintegrate into civil society demobilized guerrilleros, and to preserve the natural capital on affected territories that, paradoxically, were well preserved due to the armed conflict. For this reason, Colombia ST&I office (Colciencias), promote a new strategy for integrate science, traditional knowledge and sustainable use of biodiversity, trough a national project around Nature Scientific Tourism, which seeks to create models of knowledge management in co-creation between communities and scientist to build sustainable and specialized</p>	I also think is not essential to the box and especially assuming that you are trying to be more concrete
United States Government	75	2187	77	2261	We recommend that the box highlight a peer-reviewed study or provide additional sources for this work.	Additional sources were included. It might be a peer-reviewed article in the future but it’s stil under revision
Octavio Pérez Maqueo	75	2187	77	2261	Please explain why this study case is important given the regional approach followed during the chapter	

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
David Loreto	77	2253	77	2259	Rethinking the claim that ecotourism tThrough the strategies and actions that they pose be able to ensure the resilience of people and ecosystems or in any case to cite the evidence that allows such an affirmation.	Adjustments were made to be more specific on the development of the idea and within the current argumentation
David Loreto	77	2253	77	2259	Rethinking the claim that ecotourism through the strategies and actions that they pose be able to ensure the resilience of people and ecosystems or in any case to cite the evidence that allows such an affirmation.	Adjustments were made to be more specific on the development of the idea and within the current argumentation
Virginia Meléndez Ramírez	78	2262	78	2262	A list of topics that require research is recommended	The wording has been improved
David Loreto	78	2265	78	2265	5.9 Glossary. To consider in the definition of resilience that established by Holling in 1973, as well as the approaches with which it is currently sought to operationalize the concept, and that there is a broad debate to carry out the theoretical and methodological link between resilience and sustainability.	Definitions are being addressed by the IPBES Glossary Committee.
David Loreto	78	2265	78	2265	5.9 Glossary. To consider in the definition of resilience that established by Holling in 1973, as well as the approaches with which it is currently sought to operationalize the concept, and that there is a broad debate to carry out the theoretical and methodological link between resilience and sustainability.	Definitions are being addressed by the IPBES Glossary Committee.
Philip M. Fearnside	84	2453	84	2453	Citation: Fearnside, P.M. 2003. Conservation policy in Brazilian Amazonia: Understanding the dilemmas. World Development 31(5): 757-779. doi: 10.1016/S0305-750X(03)00011-1	Citation has been added to References
Philip M. Fearnside	87	2557	87	2557	Citation: Lapola, D.M., L.A. Martinelli, C.A. Peres, J.P.H.B. Ometto, M.E. Ferreira, C.A. Nobre, A.P.D. Aguiar, M.M.C. Bustamante, M.F. Cardoso, M.H. Costa, C.A. Joly, C,C. Leite, P. Moutinho, G. Sampaio, B.B.N. Strassburg, and I.C.G. Vieira. 2014. Pervasive transition of the Brazilian land-use system. Nature Climate Change 4:27–35. [doi:10.1038/nclimate2056].	Citation has been added to References

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
MINAM	91	2697	91	2697	There is no publication reference, only the citation to the author: Pereira 2010. No existe la referencia de la publicación, solo la citación al autor: Pereira 2010. colocarlos	Section was deleted.
Philip M. Fearnside	92	2733	92	2733	Citation: Brazil, INPE (Instituto Nacional de Pesquisas Espaciais). 2017. Projeto PRODES: Monitoramento da Floresta Amazônica Brasileira por Satélite. São José dos Campos, SP, Brazil: INPE. [http://www.obt.inpe.br/prodes/].	Citation has been added to References
Philip M. Fearnside	92	2733	92	2733	Citation: Brazil, INPE (Instituto Nacional de Pesquisas Espaciais). 2014. Sistema DEGRAD. INPE, São José dos Campos, SP, Brazil. [http://www.obt.inpe.br/degrad/].	Citation has been added to References
Philip M. Fearnside	94	2807	94	2804	Citation: Brazil, INPE (Instituto Nacional de Pesquisas Espaciais). 2014. Terra Class. São José dos Campos, São Paulo, SP, Brazil: INPE. [http://www.inpe.br/cra/projetos_pesquisas/terraclass.php].	Citation has been added to References
Brenda McAfee	11	Fig 5.1	11	Fig. 5.1	Excellent figure to demonstrate relationships and linkages. Is this also to go in the SPM?	Thank you for this comment
Brenda McAfee	36	Fig. 5.14	36	Fig 5.14	Is it still possible to infer patterns and trends in boreal forests when there do not appear to be studies from this region included in the analysis?	Thank you for this comment
Brenda McAfee	43	Fig. 5.20	43	Fig. 5.20	The focal issues identified in the figure do not match the text. In addition, one would expect that there would have been discussion of issues that are identified as drivers or assets in earlier chapters of the report. For example in this figure, no natural drivers are identified and it is clearly stated below that wildfire and insect outbreaks are major disturbance regimes in boreal forests. There is no treatment elsewhere in the report regarding forestry as a driver of change. Deforestation in Canada is the lowest in the world and has been decreasing for the past 20 years. Much of the deforestation that occurs in boreal forests is related to oil and gas exploration and processing not forestry. With respect to NCP it seems strange that while forestry is an anthropogenic asset and a driver of change, fiber is not among the list of NCPs. The absence of recreation from the list is also puzzling or is it included in tourism? One might equally expect to see metals and other minerals and oil and gas in the list of NCPs. The publication ecosystem processes, health, sustainability and environmental issues available at http://cfs.nrcan.gc.ca/publications/download-pdf/35234 may be useful.	Noted and completed

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Margarita N. Lavides					There are numerous use of 'your' as in 'your strategies' 'your territories' in this section (those referring to ILK) The authors should decide if they are going to use this person in the English language. I think this is a case of lost in translation. I think this section should be rewritten/revised for clarity and simplicity in use of English language.	The wording has been improved
Marlín Pérez Suárez					Throughout the chapter in its various sections there is no homogenization in the examples or case studies. For example, there is no comment on what is happening in Mexico or in another Central American country (mangroves restoration programs) as well as in South America that only put an example to Brazil and do not mention other South American countries. In the same way, they go unnoticed the Caribbean countries	We cannot do this here for reasons of space and IPBES guidance.
Marlín Pérez Suárez					They do not mention of the importance and implications of the traditional agriculture in Mesoamerica	We cannot do this here for reasons of space and IPBES guidance.
Marlín Pérez Suárez					In the literature we consider climate change is an indirect anthropogenic drivers product of environmental pollution and the fragmentation and / or degradation of natural ecosystems caused by different human activities. In its case the authors consider it as a direct anthropogenic driver, to clarify why they consider it so.	Chapter 4 categorizes climate change as a direct anthropogenic drivers.
Marlín Pérez Suárez					One of their key findings, in specific (2) Significant amounts of Tropical Dry Forest has been converted to grasslands and semi-arid systems. (Well established) About 65% of new desert areas originally represented Tropical Dry Forest. Mesoamerica is one of the regions where the tropical dry forest has suffered a significant impact in its coverage, due to the conversion to agricultural land and livestock, mainly. No mention is made of this in the chapter and specific to the case of Mexico	We cannot do this here for reasons of space and IPBES guidance.
Marlín Pérez Suárez					One of their key findings, in specific (3) The Boreal and Temperate forests are threatened by climate change and the potential impacts on the disturbance regimes of fire and insect outbreaks are predicted to significantly impact indigenous communities and well-being. They are also impacted by industrial development, which is resulting in increased fragmentation of the forest ecosystems. In the same way, the case of Mexico the template forest is the most threatened and the one that has suffered a considerable decrease in its coverage throughout the country. There is no mention of this in this section.	We cannot do this here for reasons of space and IPBES guidance.

Reviewer Name	From Page	From Line	Till Page	Till Line	Comment	Author Annotations
Marlín Pérez Suárez					In addition, it is necessary to consider and include as a unit of analysis the alpine ecosystems that are well represented throughout the American continent. Since the biodiversity they harbor is highly susceptible (endemism) to direct and indirect controls of loss of diversity, in addition to their close relationship in the subsistence of marginal indigenous communities that have a broad knowledge of the benefits of local biodiversity.	IPBES considers alpine systems as part of Tundra.