

Reviewer ID	Ch	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How comment was addressed
USA government	General Comment					All chapter headings should be placed at the beginning of each heading. For example, Chapter 1, Background, 1.1 should be at the start of line 4. For example, Chapter 2, Line 3 page 5 should have 2.2.1 at the start.	This will be fixed by the editing team.
USA government	General Comment					As with many group drafted documents, this draft is in need of a good editorial review, for both grammar and style consistencies. In particular, our reviewers have noted many scientific names are lacking, the need for proper use of italics for scientific names and <i>et al.</i> , consistent serial commas and citation notations, and section / heading styles.	This will be fixed by the editing team.
USA government	General Comment					There are sections of the document which speak directly about trying to convince policy makers of something, or to take some action. Our government scientists do not advocate, but strive to provide unbiased science without directed outcomes. Some more specific comments are made in Chapter 4.	In revising our chapter, we checked each section to ensure the most balanced view we could achieve.
USA government	General Comment					I was impressed with the scope & depth of the assessment. Although I devoted most of my time to the Preface and the Summary for Policy Makers, I did look at all chapters and I believe that each provides a very useful global scale synthesis. I think that the Assessment will be very useful in framing discussions going forward.	We thank the Reviewer for her/his positive appraisal of our chapter.
Richard Corlett	General	0	0	0	0	This is an excellent SOD. Congratulations to the author team.	We thank the Reviewer for his positive appraisal of our chapter.

Thomas Brooks	General					<p>Congratulations to everyone involved on this impressive piece of work; the IPBES pollination assessment is shaping up to be a really valuable contribution. I am now comfortable that the assessment builds on and reflects in appropriate ways the various contributions from IUCN on the subject of pollination, notably a) the IUCN SSC Red List of Threatened Species <a href="http://www.iucnredlist.org">http://www.iucnredlist.org</a> and b) the IUCN CEM/SSC Worldwide Integrated Assessment of the Impact of Systemic Pesticides on Biodiversity and Ecosystems <a href="http://link.springer.com/journal/11356/22/1/page/1">http://link.springer.com/journal/11356/22/1/page/1</a>, and citation to the specific papers therein. It is very important that these citations are retained through to the final publication of the IPBES pollination assessment, reflecting IPBES's mandate to build from existing work. I also make a few suggestions and comments on other points I noticed as appropriate.</p>	We thank the Reviewer for his positive appraisal of our chapter.
Madeleine Chagnon	3	2	1	76	2561	excellent. No comments	We thank the Reviewer for her positive appraisal of our chapter.
Yi Huang	3	2				The title is too long - should be a sample version like: The status and trends in pollinators, and pollination services"	We agree. Changed to "The status and trends in pollinators, their functions and
Yi Huang	3	4	1	7	108	As most of the statements are (established but incomplete), it is difficult to make any further suggestions. However, from the current style of writing, the statements of each paragraph (bolded text) are not in same style. As this is the status and trends chapter, it should in a style of narrative description of the status or trends.	We have now ensured consistency in style.

Jan Axmacher	3	4	1	7	108	Overall, this section is very strongly bee-focused. It would be great to see a more inclusive approach - at least very clearly mentioning and elaborating the knowledge gaps existing in relation to e.g. specific highly species-rich, but poorly studied groups (moths, generally nocturnal pollinators, ...) and/or prevailing geographic biases in this section already. While this is done very effectively in several instances within the subsequent text, it is in my view missing here.	We now mention these other groups of pollinators in the Executive Summary.
Zhao Zhiping	3	4	2	4	4	The speed of habitat lose of pollinators is very high in rual-urban region due to fast urbanization in the easternChina.	This comment is too specific for the executive summary. Furthermore, no
David Cooper	3	4	2	4	3	Does this statement refer to agricultural/human-dominated landscapes, natural landscapes, or both? What is the evidence for the "particualry in NW Europe and N America).	We have now clarified this in the paragraph following the bold statement.
Arnon Dag	3	4	2	4	4	Why you refer only to wild pollinators ? In the introduction its written that this chapter will handle also managed pollinators.	Although its is true that we handle managed pollinators, wild pollinators are the ones that are declining.
Alejandro Parra-Hinojosa	3	4	2	4	3	The definition of diversity involves abundance and richness (that could be related to species occurrence). Review the way are expressed together those concepts	We have clarified this in the following sentence, changing "diversity" to "species richness", where appropriate.
Chinese government	3	4	3	4	3	At the end of the sentence, the reviewer suggests to add another statement actually listed from line 11 to 12, 'trends are mainly unknown for other regions or continents, especially in developing countries mainly because of a lack of baseline datasets and monitoring schemes.'	W reworded the first bolded sentence to make implicit that we only have data for these trends in NW Europe and N America.
Thomas Steeger	3	4	5	4	7	The sentence is a little confusing "found to decline strongy with distance from the field margin". Do you mean agricultural fields where there is no vegetative buffer surrounding the field?	This sentence was now rewritten to clarify its meaning.

Jari Niemelä	3	4	5	4	7	it is stated that 'The local abundance and diversity of wild bees have been found to decline strongly with distance from field margins and remnants of natural and semi-natural habitat at scales of a few hundred meters (well established).' Does this mean that wild bees prefer edge habitat? Please clarify.	This has now been clarified as to imply that pollinators spill from habitats fragments that act as pollinator sources.
David Cooper	3	4	5	4	7	"local abundance .....decline.." This statement seems out of palce. The rest of the apra deals with changes in whole regions over time.	The paragraph deals with both scales and therefore we feel this is not out of place. This is now clarified.
UK Government	3	4	7	4	8	The reference to "highly urbanized countries" implies that it is urbanisation itself which is the major driver of pollinator loss. That's not the case, agricultural intensification is the main factor, it accounts for a much greater area of the land in most countries. Perhaps you mean "highly industrialized"?	Done.
Thomas Steeger	3	4	7	4	9	Are these declines a possible artifact of the likely improved record keeping in these areas, i.e., that declines may be more widespread or our ability to interpret them limited due to inadequate baseline information.	The studies on which these findings are based controlled for sampling effort. However, it is true that we are limited by data availability in the other regions,
Jeff Ollerton	3	4	7	4	8	The reference to "highly urbanized countries" implies that it is urbanisation itself which is the major driver of pollinator loss. That's not the case, agricultural intensification is the main factor, it accounts for a much greater area of the land in most countries. Perhaps you mean "highly industrialized"?	Yes we mean "highly industrialised". This is the term that is now used.
Simon Potts	3	4	9	4	12	Update in light of Kerr et al. 2015 Science which was just published	In the revised ES, we now distiguish between declines in bee populations, bee diversity, and shrinkage of bumble- bee pollination ranges, which is what is
Thomas Steeger	3	4	11	4	11	consider ". . .are mainly unknown for other regions or continents in large part because of a lack . . ."	Done.
Jari Niemelä	3	4	19	4	19	'well-connected plant-pollinator networks' shoud be briefly explained	Changed to "Systems with many plant pollinator links...".

Simon Potts	3	4	24	4	26	This strongly overlaps with Ch 2 and is not asked for in the chapter scoping document	Changed the sentence to being about trends, which is the main goal of Chapter 3 and what distinguishes it from
German Government	3	4	28	4	28	There is a Task Force on Indigenous and Local Knowledge Systems in IPBES. Here, the term 'traditional knowledge' is used. Please provide clarification on the difference between the two terms.	Done.
Arnon Dag	3	4	28	4	33	Your mixing terms here if you are dealing with managed bees, so can no longer refer to them as wild pollinators, The right term should be managed pollinators.	It is possible to manage a species living in the wild, so the mixing of terms is correct.
Thomas Steeger	3	4	29	4	33	It unclear how acclerated deforestation is associated with a decrease in the transfer of knowledge to younger generations. Consider: "Owing to a decrease in the transfer to younger generations of traditional knowledge on sustaining the environment, deforestation has acclerated and traditional bee (e.g. , stingless and wild honeybee) management practices in the Americas, Asia and Africa are in deline."	This has now been rewritten for the sake of clarity.
Simon Potts	3	4	29	4	29	Is deforestation the only driver of knowledge loss? Is this a proven link or just a correlative association for which a another unmeasured factor could be driving both deforestation and knowledge loss?	Changed to "Associated to accelerated changes in social systems and cultural values, and loss of habitats, there has been a decrease in transfer of
Chinese government	3	4	65	4	65	There have been increasing import of commercial Bumble pollinators for greenhouses in China. However, few studies were done to evaluate ecological impacts by these alien Bumble populations.	This needs to be added into the main chapter, to help explain why this is Established but incomplete and not WE (Well established). Seems terrestris is indigenous to China, but perhaps not
Cynthia Scott-Dupree	3	5	35	5	36	The statistics I have seen on numbers of bee colonies in Canada and US clearly indicate increases. What is the well established information that shows otherwise.	This is based on FAO data as it is stated in this paragraph. Perhaps, the increases observed by the Reviewer are on a shorter time scale, so we have now

Arnon Dag	3	5	35	5	55	This paragraph give you the feeling that the honeybee are the worst enemy for pollination worldwide, it should be written in more balanced way, especially it crucial to mention that most of the commercial crop pollination is made by those bees. Another important point- after the varroa entered , there was a collapse and honey bee wild colonies populations which created shortage in pollinators in many places	We have revised the whole chapter and we firmly believe it provides a balanced view on the importance for crop pollination of both honey bees and wild bees. Regarding the impact of Varroa on crop pollination, we believe this issue should be addressed in other chapters in the assessment, particularly in Chapter 2.
Thomas Steeger	3	5	36	5	39	This sentence implies that declines in managed bee colonies was associated with the dissolution of the Soviet bloc. Is this actually the case or might have been an artifact of the rapid spread of varroa and the diseases it vectors?	Yes, evidence shows that the decline was associated with the socioeconomic and political changes brought about by the dissolution of the Soviet Block.
David Aston	3	5	36			Reference for FSO data needs to be inserted	Full reference is given in the main text.
Simon Potts	3	5	37	5	37	Small but important technical point. "last five decades" was correct when the paper was published (i.e. 1961-2007) however, when the IPBES report is published the last five decades will be 1966-2016 so need a small clarification for this in the 3 times it is mentioned in the executive summary and throughout main text. Maybe just add a footnote?	Footnotes added to clarify the time scale encompasses by the three trends mentioned by the Reviewer.
Thomas Steeger	3	5	44	5	44	What is meant by "shifts"? Do you mean changes in the number and distribution of colonies?	It is both abundance and distribution. We have now clarified this.
Thomas Steeger	3	5	47	5	47	capitalize "Western"	Done.
Cynthia Scott-Dupree	3	5	47	5	47	Lead should be "led"	Done.
USA government	3	5	48	5	48	...spillover of pathogens AND PARASITES? The varroa mite mentioned on line 49 is a parasite and pathogen vector. And I believe there is substantial evidence for spillover of parasites as well as the pathogens they are associated with/vectoring.	We added "and parasites".
Aparna	3	5	48	5	49	Pls give the scientific name for varroa mite.	The scientific name is provided.
USA	3	5	49	5	49	Insert scientific name ( <i>Varroa destructor</i> ) for varroa mite.	Done.

Cynthia Scott-Dupree	3	5	50	5	50	difficult/costly should be "difficult and costly"	Done.
Thomas Steeger	3	5	51	5	52	insert ( <i>Varroa destructor</i> ) after varroa mite	Done.
Thomas Steeger	3	5	51	5	52	the publication should be consistent on its use of capitalization for disease/viral names. Other chapters have used Deformed Wing Virus, Deformed wing virus or simply DWV. An effort should be made to use a common format.	We have checked for these inconsistencies within the chapter, but in any even this type of inconsistencies among chapters will be fixed by the editing team.
Simon Potts	3	5	54	5	54	"affects" - state in what way	The whole sentence has now been clarified, as there is insufficient evidence to be conclusive about the impact of
Thomas Steeger	3	5	57	5	61	be consistent on terminology; use either bumblebee or bumble bee, but not both.	Agreed, bumble bee is two words.
Cynthia Scott-Dupree	3	5	60	5	60	You have "bumble bees" here but previous to this you have used Bumblebee. Please be consistent within and between chapters. Honeybee is one word so far in Ch 3 - be consistent there as well.	Done.
Cynthia Scott-Dupree	3	5	63	5	63	Bombus should be "B."	Done.
Barbara Gemmill-Herren	3	6	69	6	72	this seems to directly contradict Gallai et al and many other statements within this document; where is this figure derived?	These figures are derived from Aizen et al (2009), and take into account that pollinator dependency varies among
Barbara Gemmill-Herren	3	6	78	6	80	I am not sure it is correct to single out these areas, we are increasingly understanding how much nutrition in many other areas of the world depend on for example agroforestry species and non timber forest products (see Dietary quality and tree cover in Africa Amy Ickowitz *, Bronwen Powell, Mohammad A. Salim, Terry C.H. Sunderland, Global Environmental Change Volume 24, January 2014, Pages 287–294- most of which I think are likely very dependent on pollinators)	This statement refers to volume production not to nutritional content. This is now clarified.

Cynthia Scott-Dupree	3	6	82	6	82	In Canada rapeseed is called "canola" - I think you should use the word here and indicate it is another word for rapeseed.	Canola is a type of rapeseed. Thus, rapeseed represent a more inclusive category. Rapeseed is also the category used in the FAO dataset, so we used that term to remain consistent with that dataset.
Barbara Gemmill-Herren	3	6	85	6	86	what does this mean, this does not scale up globally? Mmore precision is needed, and also explanation- if not why not?	This has now been clarified.
UK Government	3	6	86	6	87	"Pollinator-dependent crops" is potentially confusing (cross reference to UK Government comment on SPM page 2, lines 27-30). Also this paragraph starts by talking about local pollinator declines, and then goes on to talk about reduction in diversity. If the evidence is about diversity (at what scale?) then the first sentence should be about diversity. As an aside, the term 'pollinator decline' appears throughout the document and means different things in different places. Also, the language in this part of the report reads like a search for evidence to back up campaigns about pollinator declines: The null hypothesis should be 'no change', with evidence used to reject this, as appropriate.	Pollinator decline is now defined in the Exec Summary, on first use. Through the chapter, we have now clarified which type of pollinator decline is being referred to. We have also separated out the diversity and abundance components when refering to decline in this paragraph.
Simon Potts	3	6	86	6	87	This sentence should be qualified with established but incomplete	We changed "Yield of most" to "Yield of many", and then we added the
Arnon Dag	3	6	86	6	87	This statement is not widely accepted by people working on crop pollination - In most of the crops the diversity of wild pollinators does not say anything on the yield	We disagree. Several papers have shown that crop yield is positively related to pollinator diversity. Garibaldi et al. (2013) provides evidence that this
Barbara Gemmill-Herren	3	6	89	6	90	? But there has been a general deceleration in yield growth? And this seems contradicted by what you say in lines 98-100	Dealt with above. Specifically, we make a distinction between the results at the local and global scales. The paragraph has now been rewritten to improve



David Cooper	3	6	90	6	92	If this is well established, the "it has been estianted that" part can be dropped.	Agreed , removed.
Arnon Dag	3	6	91	6	91	Where you take this statement from ?, there are enormous number of publications, for different crops, say the opposite	Our statement is based on the comprehensive meta-analysis of data from over 41 crops in 600 sites in the
Simon Potts	3	6	92	6	92	Change "options" to "providers"	This sentence has now been removed because it was not about a trend or
David Cooper	3	6	92	6	94	"Therefore..." incomplete argument. Previous statement would suggest wild better, case for also needing managed has not been made.	Sentence removed (see above)
Simon Potts	3	6	96	6	97	Over what time period is this referring?	The period, 1961-2008, is now included
Richard Corlett	3	7	102	7	108	I did not understand this until I had read the main text. It needs rewording.	This sentence has been reworded.
Barbara Gemmill-Herren	3	7	102	7	108	I really don't buy this hypothesis, and think it should not be presented without documentation. There has been such an expansion in the crop area of horticultural crops not because farmers are frustrated at their yields and decided the only way they can produce more is to expand production on to new land; but because, largely, horticultural crops have become a lucrative export market in many develeoping countries, where they did not exist before. The cause was not a loss of production due to pollinators, as implied. You do mention the expansion of global agriculture, but almost as an aside, not a major force.	We have changed the sentence to "The high market value of crops... " and we took out the implication that the expansion is owing to reduced fruit set.
Thomas Steeger	3	7	107	7	107	consider deleting "areal"	This sentence has been removed.
Cynthia Scott-Dupree	3	7	107	7	107	Areal should be "area"	This sentence has been removed.
Arnon Dag	3	27	749	27	749	This list in (is ?) not exhaustive'. I agree. I suggest to add a table with the names of the different managed pollinators, their family, which crop(s) they were tested for and references - one such table will be more helpful than few pages of text	This comment is pertinent for chapter 1.

Jean-Pierre Sarthou	3	29	795			It has to be alluded that synergistic effects between neonicotinoids (insecticides) and diseases and parasites of bees are nowadays well documented (see the EASAC's recent report: EASAC, 2015. Ecosystem services, agriculture and neonicotinoids. EASAC Policy report 26 (70pp). www.easac).	This comment is pertinent for chapter 2.
Diane Castle	3	34	1373	34	1057	Comment The quote "6-8% of total production " is inconsistent with figure in Chapter SPM pg 6 line 158. Which is correct?	The figure of 6-8% of total production is correct considering the partial dependence on pollinators of most
Thomas Steeger	3	45	1342	45	1342	delete second "over time"	Done.
Thomas Steeger	3	45	1370	45	1371	sentence is a little confusing; consider ". . .the question that follows is not how dependent are individual crops, but rather how dependent is global agriculture on animal pollination."	Modified as suggested.

Andony Melathopoulos	3	46	1130	46	1149	<p>Neumayer (2007) has an important critique of Nordhaus (and Stern, to whom Nordhaus is responding) by pointing out that the focus on discounting rates misses the whole issue that future degradation may result in the permanent loss of natural capital. As Nordhaus points out, even in Stern's worst scenario for climate change, human welfare still expands (but does not expand optimally). Neumayer points out that what Nordhaus and Stern fail to notice is that discounting (no matter what the rate) does not register permanent loss. With respect to pollinators, this may suggest that lowering the discount rate to reflect the importance of pollinator conservation for future generations may miss the point if it leads to high levels of extinction. According to Neumayer, in such cases it may be better to argue on the grounds of preserving natural capital before irreversible loss takes place (ie strong sustainability). This argument was adapted to the specific case of pollination by Olschewski and Klein (2011)     Neumayer, E., 2007. A missed opportunity: The Stern Review on climate change fails to tackle the issue of non-substitutable loss of natural capital. <i>Global Environmental Change</i> 17, 297-301.   Olschewski, R., Klein, A., 2011. Ecosystem services between sustainability and efficiency. <i>Sustainability: Science, Practice &amp; Policy</i> 7, 69.</p>	This seems to be a comment for chapter 4.
Andony Melathopoulos	3	46	1150	47	1169	<p>I am glad thereport foreground the problem of datasets. But at some point there should be an assessment of the most pressing data needs. I certainly think there is a tremendous problem associated with some of the simplest problems (e.g., what crops managed pollinators are allocated to on a national scale). A statement (a table would be even better) outlining the most problematic type of datasets would be helpful.</p>	This seems to be a comment for chapter 4.

Andony Melathopoulos	3	46	1170	47	1180	I am very sympathetic to the point that valuations may not be meaningful without accounting for the variation in pollinator visitation on crops across space and time. Like the report, I also think part of the solution is long-term monitoring. But it would be helpful if the report could provide insight into how to prioritize such monitoring. Clearly, a government could take up "monitoring" but without a clear focus, resources could be squandered. I'd like to see the authors expand (in 2-3 sentences) what issues need to be considered in our approach to monitoring. To make my point clear, let me provide an example. It strikes me that crops that currently have a massive influence on valuations (e.g., oilseeds) that also lack pollination markets (i.e. where pollinator visitation is not even coarsely regulated as an input by farmers) may not be impacted by pollinator declines because pollinator populations do not exist. Perhaps, in such a case, a pilot study should be conducted to see how dependent these crops are on pollinators <i>in practice</i> . If pollinators largely do not play a role in current yield (and I suspect for soybeans they are not) then a monitoring program could excludes these crops in order to focus resources elsewhere. My point here is not that the report adopt my suggestion, but rather that it advance some thoughts on the priorities for monitoring might be set.	This seems to be a comment for chapter 4.
Simon Potts	3	46	1334	46	1339	Please convert to full sentence	The bullet points are now removed. However, we decided to keep a paragraph outlining the content of each
Cynthia Scott-Dupree	3	46	1334	46	1344	Delete section	The bulleted points are now deleted.
Zhao Zhiping	3	46		51		There should be a list of crops that are vulnerable to pollinators reduction.	This seems to be a comment for chapter 1.

Mike Garratt	3	46		56		This section would benefit from a table giving examples of pollinator dependent crop and particularly those that have increased significantly over recent decades. There are only a few examples of these crop within the text. Alternatively including such a table in Chapter 1 to which reference could be made.	This Table has now been included (Table 3.X)
Arnon Dag	3	47	1358	47	1360	This is for seed production (in the seed companies) not commercial production of seed for oil or confection	This is now clarified.
Arnon Dag	3	47	1361	47	1361	What is 'outcrossing crop' do you mean self incompatible crop ?	Yes, all self-compatible crops are outcrossing, but not all outcrossing
Arnon Dag	3	47	1366	47	1366	Maybe the most pronounced example for parthenocarpic crop that depend on insect pollination is seedless water melon	This example is now provided, and a reference (Walters 2005) included.
Arnon Dag	3	47	1379	47	1379	You can cite here; <i>Delaplane, K.S., Dag, A., Danka, R.G., Freitas, B.M., Garibaldi, L.A., Goodwin, R.M. and Hormaza, J.I. (2013) Standart methods for pollination research with Apis mellifera. J. Apic. Res. 52: 1-28.</i> Which have a chapter on the effect of pollination on fruit quality	This reference has now been cited.
German Government	3	47	1384	47	1388	It does not seem an easy task to expand our global agricultural area by 30-40% to compensate for production deficits caused by poillinator loss, and not only environmentally. Would this at all be possible, considering the vast amount of agricultural land necessary for such a task, also considering conflicts of interest (e.g. bio-energy)? Some thoughts on this would be welcome at this point. Furthermore, the statement does not seem to be completely in line with chapter 3.7.3, which lists several reasons why global agriculture has become more pollinator-dependent.	We cannot expand this section to keep balanced with the other sections of the chapter and to keep speculation at a minimum. However, we change "could be" by " would need to be" and added "as well as pose other land-use conflicts" . We think that the meaning of this paragraph is clearer and more complete. Also, we checked section 3.7.3 and we could not detect the inconsistency pointed out by the

UK Government	3	48	1395	48	1410	The discussion in this section about the greater dependence on animal pollinators in the developing world seems to be contradicted by Figure 3.9 where large areas of the developing world in Africa and South America are less dependent on pollinators than, for instance, Canada and parts of Europe.	On average, pollinator dependency of agriculture has increased more in the the Developing tha Developed work, but exceptions like Canada are pointed out.
Thomas Steeger	3	48	1395	48	1395	consider ". . .has been steeper in developing countries within Africa, Asia and Latin America than in developed countries in North America, Europe and Australa/New Zealand".	Modified as suggested.
Jeff Ollerton	3	48	1395	48	1410	The discussion in this section about the greater dependence on animal pollinators in the developing world seems to be contradicted by Figure 3.9 where large areas of the devleoping world in Africa and South America are less dependent on pollinators than, for instance, Canada and parts of Europe.	On average, pollinator dependency of agriculture has increased more in the the Developing tha Developed work, but exceptions like Canada are pointed out.
Arnon Dag	3	48	1395	48	1400	Some of this paragraph is repetition on paragraph that appear earlier in that chapter	This paragraph expands on one of the key messages portrayed in the Executive Summary and thus is not a repetition.

Jens Dauber	3	48	1402	48	1404	There are several studies, some of the quoted in the present report, which show that canola does benefit from pollination (higher seed set, better timing in seed ripening). It is however also widely acknowledged, that we still know little about the "dependency" of canola on insect pollination. This dependency is furthermore dependend on the canola variety cultivated. Thus, an increase in the acreage of canola cultivated may not be a direct indicator of increasing pollination dependency. At least it is not entirely clear, whether a lack of insect pollination would have a notable economic impact. I don't think that this statement made here is wrong but it may require some more careful consideration of the interpretation of "dependency" of a crop on animal pollination. The sources of uncertainty are discussed in the following section. Still, I am not convinced that the uncertainty about the degree of pollination dependency truly plays a minor role for the assessments made.	We fully agree with the Reviewer's comment and recognized that our report is, for most issues, based on fragmentary information subjected to several sources of uncertainty. However, it is also true that continental and global patterns emerge when these pieces of information are collated.
Thomas Steeger	3	48	1405	48	1405	delete "areal"	Deleted.
Anders Nielsen	3	48	1405	48	1410	Too long sentense, rewrite	This sentence has now been splitted in
Thomas Steeger	3	48	1406	48	1406	consider replacing "Developed World" with "developed countries"	This is the categorization used in the FAO dataset where these data came
Anders Nielsen	3	48	1412	48	1413	... their production can form a direkt link between human well-being and animal pollination(...	We beleive that this expression is correct.
Thomas Steeger	3	48	1415	48	1415	consider replacing "Developing World" with "underdeveloped countries"	We beleive that this categorization is widely accepted and it is featured in the

Andony Melathopoulos	3	49	1233	49	1234	It is very unclear to the reader what these scenarios mean in the actual context of pollination services, since it reads in the text as though they parallel those used elsewhere (e.g., IPCC). The reader should have some idea of the pollinator-specific dimensions of BAMBU mean and the key pollinator-specific parameters being adjusted among the scenarios be explained (e.g., farm prices for pollinator-dependent crops and the effect on pollinator dependency under scenarios of pollinator decline - Gallai 2009 adjusting D relative to pollinator densities).	This seems to be a comment for chapter 4.
German Government	3	49	1427	49	1445	The disquisition on 'uncertainty' is welcome.	Disquisition on 'uncertainty' is provided in Chapter 6 and annexed documents..
Mike Garratt	3	49	1433	49	1445	There are published examples which can be included here which demonstrate the variation in dependence on pollinators of different varieties of crop including oilseed and apples	McGregor's book (1976), even perhaps somewhat outdated, has now been added as a reference, as it explicitly includes notes on variation in breeding systems and pollinator dependencies for
Andony Melathopoulos	3	50	1279	51	1318	I thought this section was well written and its summary in Table 6 is excellent.	The section mentioned by the Reviewer does not seem to correspond to ourr
Cynthia Scott-Dupree	3	51	1461	51	1470	Delete section	The bullet points are now removed. However, we decided to keep a paragraph outlining the content of each
Arnon Dag	3	51	1463	51	1463	You mentioned this section 'efficiency...honeybee', but I can't find this chapter	The efficacy of honeybees vs. wilds bees is discussed in this section (see mention of the results by Garibaldi et al.
Arnon Dag	3	51	1465	51	1465	You mentioned this section 'Impact of..on crop yield', but I can't find this chapter	This section reviews trends in pollination deficit and crop yield.
Arnon Dag	3	51	1469	51	1470	Why you need to repeat it ?, this topic was already cover earlier in this chapter	The bullet points are now removed. However, we decided to keep a paragraph outlining the content of each
Anders Nielsen	3	51	1469	51	1469	... increased over space... strange wording	Changed to "along spatial disturbance gradients space and over time".



Arnon Dag	3	51	1472	53	1516	This chapter need to be re written and to be focus on crop pollination deficit and not on why wild pollinators are important (which was intensively discussed earlier)	Spatial and temporal trends in pollination deficits and declines in crop yield are mostly related to changes in the abundance/diversity of wild bees. This is why one can not present trends in crop yield independently of changes in pollinator faunas. This crop-bee
Zhao Zhiping	3	51		56		In China,agricultural yields dependent mainly on weather condition.Rainfall and cold weather impact pollinators' activities,such as plum rains which lengthen for two weeks this year.	This is an interesting observation. However, I could not find a reference to cite.

Andony Melathopoulos	3	52	1359	53	1362	<p>Actually there are quite a few critiques of ecosystem services that do not rely on objections that ecosystem services constitute commodity formation. Sagoff (2011), for example, uses a pollination example to argue that ecosystem services fail to account for the actual interactions that take place among land managers (a similar argument is advanced by Ghazoul at various points against a number of advocates of pollination ecosystem service valuation). There is also the argument that ecosystem services bend the definition of commodity to the point of being meaningless (eg Norton and Noonan 2007). There is also the compelling argument by Laurans et al. that there is little <i>actual</i> evidence that ecosystem service valuation has translated into significant investment in conservation. I don't think the authors need to be expansive here, but I do think the Sagoff/Ghazoul perspective (which I personally have disagreements with) ought to be included, if for no other reason that it has generated a visible and contended debate over the last decade.     Laurans, Y., Rankovic, A., Billé, R., Pirard, R., Mermet, L., 2013. Use of ecosystem services economic valuation for decision making: Questioning a literature blindspot. Journal of Environmental Management 119, 208-219.     Sagoff, M., 2011. The quantification and valuation of ecosystem services. Ecological Economics 70, 497-502.     Norton, B.G., Noonan, D., 2007. Ecology and valuation: big changes needed. Ecological Economics 63, 664-675.     Ghazoul, J., 2007. Recognising the complexities of ecosystem management and the ecosystem service concept. Gaia-Ecological Perspectives for Science and Society 16, 215-221.</p>	This seems to be a comment for chapter 4.
David Aston	3	52	1492			Which nation?	The US has been mentioned in the previous sentence, so it will be redundant to mention the US again.

Barbara Gemmill-Herren	3	52	1505	53	1516	the actual abstract of this study, now in submission to Science, stresses much more the effects of small field size; I think it would be best to get the actual abstract from Lucas to be able to refer more accurately to the final findings. It does make an important link to smallholder agriculture.	Actually, what is mentioned here is based on an expanded abstract of the work submitted to Science and based on a talk with L. Garibaldi. We did change the word field by holding.
Mike Garratt	3	52	1506	53	1509	There are already published examples of crops experiencing a pollination deficit particularly in top and soft fruit which could be included here as well as reference to an upcoming study.	Yes, many of these references are covered in the meta-analysis by Garibaldi et al. (2013), which is discussed here.
Rodolfo Jaffe Ribbi	3	53	1513	53	1516	I suggest to briefly discuss here the results of a recent meta-analysis performed by Kleijn et al. (2015), who show that the delivery of pollination services is restricted to a small number of common species, across crops, years and biogeographical regions. Furthermore, they find that dominant crop pollinators persist under agricultural expansion and many are easily enhanced by simple conservation measures, contrary to rare and threatened bee species. Conserving the biological diversity of bees therefore requires more than just ecosystem-service-based arguments. Kleijn D, Winfree R, Bartomeus I, et al (2015) Delivery of crop pollination services is an insufficient argument for wild pollinator conservation. Nat Commun 6: 7414.	This citation is now included, but also Garibaldi's latest analysis in press J. Applied ecol showing that species richness and abundance of single efficient pollinator species have additive effects on crop production.
Thomas Steeger	3	53	1514	53	1515	". . .are likely common, and (ii) . . .of many crops can likely be better ensured . . .". These recommendations in verbiage are because this information is being extrapolated.	Modified as suggested.
Anders Nielsen	3	53	1521	53	1523	Increasing distance from field edges into crop fields has been shown to reduce numbers of flower visits and the number of visiting species (add references)	References are now included.

Sjirk Geerts	3	53	1527	53	1534	These sentences are a duplication of L387-392 on page 15	Yes. However, one Reviewer in a previous revision wanted this example here as this example deals with a crop. Perhaps, it could be deleted in the other
David Cooper	3	53	1528	53	1534	this section seems (largely) redundant	Yes. However, one Reviewer in a previous revision wanted this example here as this example deals with a crop. Perhaps, it could be deleted in the other
Thomas Steeger	3	53	1534	53	1534	what doubled-- the variability?	Yes, variability. This is now clarified.
Thomas Steeger	3	53	1538	53	1538	presumably this is true for crops that are pollinator dependent but not so for wind pollinated crops	This is a general principle that should apply to both pollinator-dependent and
Thomas Steeger	3	54	1560	54	1561	". . .in the Patagonia region of South America . . ."	Changed as suggested.
Cynthia Scott-Dupree	3	54	1562	54	1562	Should read "Also because the honey bee, <i>A. mellifera</i> , ...."	Changed as suggested.
Rodolfo Jaffe Ribbi	3	54	1568	54	1568	Pollinator introductions should be discouraged 'in places where they are not native and have not been introduced in the past'. I believe pollinator introductions in places already containing feral populations of introduced pollinators (like honeybees), should not be discouraged if the boost crop yields.	Changed as suggested.
Thomas Steeger	3	55	1570	55	1570	". . .the depicted means ( $\pm 1$ std error) . . ."	Changed as suggested.
Pradeep Mehta	3	60	1705	60	1705	Year 2011 should be written without parentheses ()	This will be fixed by the editing team.
Pradeep Mehta	3	61	1754	61	1754	Year should be written without parentheses ()	This will be fixed by the editing team.
Pradeep Mehta	3	63	1893	63	1893	Year should be written without parentheses ()	This will be fixed by the editing team.
Pradeep Mehta	3	64	1902	64	1902	Year should be written without parentheses ()	This will be fixed by the editing team.
Pradeep Mehta	3	64	1904	64	1904	Year should be written without parentheses ()	This will be fixed by the editing team.

Nicolas Cesard	3	64	1911		1914	REFERENCE UPDATED Doherty, J., K. Tumarae-Teka. 2015. Tūhoe Tuawhenua (Māori, New Zealand) knowledge of pollination and pollinators associated with food production. In: Lyver, P., E. Perez, M. Carneiro da Cunha and M. Roué (eds.). Indigenous and Local Knowledge about Pollination and Pollinators associated with Food Production: Outcomes from a Global Dialogue Workshop (Panama, 1-5 December 2014). UNESCO: Paris, pp. 27-37. Online : <a href="http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/IPBES_Pollination-Pollinators_Panama_Workshop.pdf">http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/IPBES_Pollination-Pollinators_Panama_Workshop.pdf</a>	This will be fixed by the editing team.
Pradeep Mehta	3	64	1926	64	1926	Year should be written without parentheses ()	This will be fixed by the editing team.
Pradeep Mehta	3	64	1926	64	1947	Year should be written without parentheses ()	This will be fixed by the editing team.
Pradeep Mehta	3	65	1956	65	1956	Year should be written without parentheses ()	This will be fixed by the editing team.
Pradeep Mehta	3	65	2100	67	2100	Year should be written without parentheses ()	This will be fixed by the editing team.
Nicolas Cesard	3	69	2170		2174	REFERENCE UPDATED Samorai Lengois, J. 2015. Ogiek peoples of Kenya: Indigenous and local knowledge of pollination and pollinators associated with food production. In: Lyver, P., E. Perez, M. Carneiro da Cunha and M. Roué (eds.). Indigenous and Local Knowledge about Pollination and Pollinators associated with Food Production: Outcomes from a Global Dialogue Workshop (Panama, 1-5 December 2014). UNESCO: Paris, pp.18-26. Online : <a href="http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/IPBES_Pollination-Pollinators_Panama_Workshop.pdf">http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/IPBES_Pollination-Pollinators_Panama_Workshop.pdf</a>	This will be fixed by the editing team.
Sjirk Geerts	3	69	2181	69	2181	include full reference, i.e. this is a Masters thesis.	This will be fixed by the editing team.
Pradeep Mehta	3	72	2311	72	2311	Year should be written without parentheses ()	This will be fixed by the editing team.
Pradeep Mehta	3	75	2500	75	2500	Year should be written without parentheses ()	This will be fixed by the editing team.













































































































































































