

EKLIPSE Restoration Protocol Review - December 2018



EKLIPSE

Knowledge & Learning Mechanism
on Biodiversity & Ecosystem Services

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EKLIPSE Review of the Methodological Protocol to identify and understand “What is hampering the effectiveness of existing approaches that aim to restore biodiversity and ecosystem function and services”

Thank you for taking part in the peer-review of the methodological protocol developed by the selected experts working group to answer the EKLIPSE request on “What is hampering the effectiveness of existing approaches that aim to restore biodiversity and ecosystem function and services”.

The form has two main parts: a "general comments" part, and a “comments by section” part where you can provide more specific comments to each section of the protocol. Where possible, please provide page and line numbers so that we can ensure we match your comments to the text.

EKLIPSE requests relevant personal data in order to assess applications appropriately. EKLIPSE is a science research project in the public interest and the lawful basis for processing your personal data under the EU’s General Data Protection Regulation (GDPR) will be public task. Our privacy policy (www.ceh.ac.uk/privacy-policy) contains further information on the purpose and lawful basis for processing your personal data.

Please note the deadline for submitting comments is Sunday 9th December 2018. Thank you very much for your support!

General comments

Is the text self-explanatory, free of jargon and easy to follow? If not, where do you see a need for language revision, or more clarity? Please specify page and line numbers if possible.

Reviewer x1. No, the text is very clear	Thank you, this comment is well received
Reviewer x2. Yes, the text is clear and outlines the approach, the deliverables and the timescale.	Thank you, this comment is well received
Reviewer x3. The text is sufficiently clear and self-explanatory but I have detected some ortographic errors. I propose a language revision	Thank you for this helpful comment we will review the full document and ensure the English is clear and concise
Reviewer x4. Yes	Thank you, this comment is well received
Reviewer x5. The text as such is kind of clear, although rather abstract. For me is the following traject not clear: which effect will the report have and who will be happy with the information and how will the information contribute to the aims. Aims I interpret as: How do we improve the effectiveness of restoration project of biodiversity. Which factors appear to be hampering, how do we fill these gaps. In this case "we" as I understand is the EU.	We added some brief examples on what restoration means, and examples of hampering factors. We deleted "We" and use passive tense. It should be clear from the beginning and logos that this is an EKLIPSE call under H2020 funding programme.
Reviewer x6. NO. The whole text is pretty full of bureaucratic jargon. Not many people outside policy circles (EU, national) will clearly understand this. Even with a university education I do not fully understand this text and think it is fully incomprehensible for people "in the field"	We added some brief examples on what restoration means, and examples of hampering factors to make the text more concrete.
Reviewer x7. The text is easy to follow, for someone having the same managerial logic and approaches. In our project we do not work with notions such as "ecosystem services", or similar.	Ecosystem services is key concept and widely used in the field. Therefore, we retained the concept. However, we explained ES in one sentence.

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Reviewer x8. Text is OK	Thank you, this comment is well received
Reviewer x9. Yes	Thank you, this comment is well received
Reviewer x10. all was well understood	Thank you, this comment is well received
Reviewer x11. Yes	Thank you, this comment is well received
Reviewer x12. It's OK.	Thank you, this comment is well received
Reviewer x13. Yes, it's fine.	Thank you, this comment is well received
Reviewer x14. 123 make it clearer 125 Objectives. I missed something about how this document would link to EU governance. 160 (remove prepare ~of~) 184 Table 1: more clarity about what you mean by the different steps of ecological restoration, particularly for planning and assessment. I like the idea of the table, but could it be more clear? maybe populated with some examples. 210 No clear to me the communication that is described here. STEP2: no mention to farmers... good to include them in some way.	<p>We explain now briefly how we envisage that the outputs of the EKLIPLE restoration call may affect EU policy making (e.g. who will read the outputs, is there formal requirement to take the outputs into account, brief examples on what has happened in previous similar calls.</p> <p>We defined briefly the steps for restoration. In general the concept comes from the policy cycle idea that describes process from problem definition until evaluation.</p>
Reviewer x15. The text is clear. Line 166, "regional, and national", if I understand well (three levels: local, regional-national, EU) the comma should be removed.	We clarified. NOTE: often regional means upper level than state, but sometimes between local and state. We should clarify this.
Reviewer x16. yes	Thank you, this comment is well received

Reviewer x17. <i>the text is explanatory, the language is clear.</i>	<i>Thank you, this comment is well received</i>
Reviewer x18. <i>Yes, the description of the methods is clear and easy to follow.</i>	<i>Thank you, this comment is well received</i>

Regarding the initial request made to EKLIPSE “What is hampering the effectiveness of existing approaches that aim to restore biodiversity and ecosystem function and services”, do you agree with the interpretation of and refinements to the request and the knowledge synthesis framework?

Reviewer x1. <i>Probably the word "effectiveness" could be discussed. I propose "Viability".</i>	Unfortunately we are unable to change the title as this is the Title of the project developed following the initial Request and scoping following the initial request, please see Eclipse Document of work: Restoration effectiveness Request, April 2018
Reviewer x2. <i>Yes, the revised question allows a greater scope of research into the 'impediments' to restorationwhich may be more than a lack of knowledge (as inferred by the original request)</i>	<i>Thank you, this comment is well received</i>
Reviewer x3. <i>Yes</i>	<i>Thank you, this comment is well received</i>
Reviewer x4. <i>Yes</i>	<i>Thank you, this comment is well received</i>
Reviewer x5. <i>Yes. Should I give examples from my own work environment?</i>	<i>Yes please we are very happy to receive any information at all</i>
Reviewer x6. <i>Not really. The most important barriers are NOT addressed in the framework: by far the most important barrier probably is competing interests of interest groups (example 1: greening of CAP has been frustrated by the agricultural lobby; example 2: the logging of many woodlands in buffer zones around Polish (and other!) N2000 areas to "protect" such areas against the</i>	<i>Thank you for this information we will include it in our work.</i> <i>The barriers on competing interests may be social, economic or cultural. These are addressed by the table 1,</i>

General comments

bark beetle (which is not a problem at all in mixed forests but only in even-aged pine tree plantations); example 3: present problems with diesel cars in Germany. Most people agree about the problems caused by such cars, nevertheless all measures proposed are highly disputed due to other interests, e.g. economic interests of different actors, citizens don't want to invest huge sums of money in a new car, don't want to travel longer by public transport, don't want to move closer to their jobs because housing is more expensive, etc. etc. Another important barrier is a chronic under-investment in restoration activities and highly complex procedures to obtain financial support. Most EU and national funding schemes supply a certain percentage of the requested funding, typically 50%, and the rest needs to be supplied from somewhere else, preferably "the market". The market generally is hardly interested and the consequence is that such approach excludes groups that have little or no access to other financial sources. In practice it means that large, wealthy and well-organised stakeholders from rich countries are capable of getting support whereas the real needs for support lie somewhere else. A third important barrier is training. Available knowledge is not well disseminated to policy and implementation levels at the regional scale (sometimes not even at the national scale!). This leads in many cases to bad plans and/or bad implementation. Insufficient training also leads to the situation that experts and environmental policy makers cannot reliably judge and/or explain the consequences of alternative scenarios to decision makers and the general public. Outcomes of discussions on alternatives are than typically based on side arguments and rarely on the main issues. Finally an important barrier in increasing knowledge on the effectiveness of existing approaches is the general lack of monitoring or -if it is done- for far too short periods to be able to judge the outcomes. Partly this has to do with barrier 2 (chronic under-investment) which leads to the situation that stakeholders want to "do" something with the minimal amount of funding they have available instead of "just studying" but decent monitoring is an integral part of ANY restoration activity and should be carried out for sufficiently long periods, at least 1-2 decades (ecosystems generally take their time in reacting!). If we really take

which also points to governance barriers, that may result from poor or bi-ased treatment of competing interests.

Underinvestment is addressed by economy, and also assessing political will to invest on restoration. Covered under the theme Political barriers in table 1.

<p><i>restoration serious we MUST implement a good (and obligatory!) system monitoring the (in this case: ecological) outcomes of restoration activities. Similar monitoring systems exist for decades already in other sectors like forestry, agriculture, fisheries, financial world, etc. If we don't set up a decent monitoring system (and make the results available through information sessions, books, websites, etc.) we always will have to rely on people that have seen the outcomes of activities themselves (in fact having been "monitors").</i></p>	
<p>Reviewer x7. Yes</p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x8. Yes</p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x9. <i>It makes sense.</i></p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x10. yes</p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x11. Yes</p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x12. <i>I would certainly and specifically add to the list of stakeholder and actors, e.g., in lines 131 and 163, ecological tourism and nature tourism, as these are exceptionally well accepted and attracting cultural ecosystem services' precursors, and could seriously support every kind of restoration process, if the final results will include easier and sustainable access to green or seminatural areas and features.</i></p>	<p><i>Nature based tourism can benefit from restoration. We added them as potential beneficiaries of restoration approaches.</i></p>
<p>Reviewer x13. <i>The initial request was about whether lack of knowledge is hampering...Which implies that the question is "Do we know enough, but are not implementing it, or do we just not know enough yet?" I am not totally sure that this broader question maintains the point of the original request.</i></p>	<p><i>We will ensure that our work incorporates the intent of the original request</i></p>

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Reviewer x14. <i>I think it does, but not sure about the level of detail that is proposed extract through this document.</i>	<i>We added some clarifying examples.</i>
Reviewer x15. <i>OK</i>	<i>Thank you, this comment is well received</i>
Reviewer x16. <i>yes - although at line 135 and in the table under Step 3 we should also mention limitations related to scientific knowledge (eg, lacking or uncertain experimental results or models to understand the consequences of a particular restoration action)</i>	<i>There will be a number of limitations identified as we implement the methodology and we will not these in the final report, scientific knowledge may will no doubt be one which emerges</i>
Reviewer x17. <i>I agree with the interpretation, but I think it needs to be further refined, especially with regard to resilience. Natural adaptive cycles must be compared with human dominated ecosystems. I believe that comparing the adaptive cycle between a man-dominated ecosystem with a "pristine" ecosystem could perhaps be a good idea.</i>	<i>Resilience is a promising concept, but we feel that the call would become very technical / and even more jargonish if using resilience. We can think mentioning social-ecological resilience as objective of restoration.</i>
Reviewer x18. <i>Yes</i>	<i>Thank you, this comment is well received</i>

Is the global methodological approach logical, well-formulated and appropriate? Please consider that the budget and timetable of this knowledge synthesis is limited.

Reviewer x1. <i>In the table 1, the word "Ecological" probably is extensive (terrestrial, aquatic, both?).</i>	<i>Yes it covers all ecosystem types across the EU</i>
Reviewer x2. <i>Yes. Regarding the paragraph, lines 99 to 102, both the political environment and the 'bulky' bureaucracy underlying the implementation of actions or policies form the regulatory environment and so must be a key consideration.</i>	<i>In the table on steps we have political barriers including the ref suggestion.</i>

<p>Reviewer x3. <i>The global methodological approach is appropriate. However, I'm not sure if the quantification that is proposed (a.e. Delphi process) is appropriate because it could mask or minimize some detected problems or limitations. In order to reduce this risk the results of this process must be joined to an extensive interpretation.</i></p>	<p><i>We recognize potential shortcomings of Delphi, but for our purposes we see it the best available option. We back it up by extensive literature review, and thereby gain insights from both: experts (Delphi) and publication (science). So the methodology includes "extensive interpretation".</i></p>
<p>Reviewer x4. <i>Yes, subject to the comment below</i></p>	<p><i>No Comment required</i></p>
<p>Reviewer x5. <i>Difficult to say. I have no information on the proposed content of the questionnaire. The formulation of the questions is important related to the kind of answers you want to obtain. Here too: more concrete questions will produce more concrete answers.</i></p>	<p><i>The updated Protocol explains in more detail how the questions will be defined</i></p>
<p>Reviewer x6. <i>See above.</i></p>	<p><i>No Comment required</i></p>
<p>Reviewer x7. <i>It's logical and well formulated, but not entirely appropriate.</i></p>	<p><i>Difficult to understand this comment so no reply has been provided</i></p>
<p>Reviewer x8. <i>Yes</i></p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x9. <i>Yes... but illustrations with case studies would be useful for the communication of results to broader audience. I would add a request for concrete examples into Step 3.</i></p>	<p><i>Thank you for his suggestion I am sure the final report will include case studies</i></p>
<p>Reviewer x10. <i>I do think so</i></p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x11. <i>Yes</i></p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x12. <i>It's OK.</i></p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x13. <i>The approach is logical and well-formulated. However, I seem to recall some work by Lynne Dicks that found that expert opinion was actually a poor</i></p>	<p><i>Expert opinion (Delphi) is complemented by extensive literature review.</i></p>

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<p><i>way of answering questions. I don't know enough about the detail to relate that to this piece of work, but it might be worth considering.</i></p>	
<p>Reviewer x14. <i>Approach is ok but to do what is described here, the timelines seem to me a bit tight for what is planned to achieve. Obviously the level of detail can be cut based on those constraints, in that case the focus should be given to show a clear rank of obstacles for restoration for policy makers. 146 STEP 1. Is this something that Eklipse will do? At what scale? 158 STEP 2. I am happy with the approach, in practise it will be a very complex process, particularly on those countries with different levels of administrative duties. Is Eklipse going to look into all those details and produce a final document, or will you give the principles to be applied to each country?</i></p>	<p><i>The timelines have been updated. We have also modified the approach to include two parallel processes. A final report will be prepared which will include the outcomes established</i></p>
<p>Reviewer x15. <i>OK</i></p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x16. <i>Yes</i></p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x17. <i>i think so</i></p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x18. <i>Yes, but it would be helpful to see the list of search terms defined and agreed by the EWG to get an idea of how broad and appropriate the scoping review is.</i></p>	<p><i>We have added list of search terms.</i></p>

For each step/research question, is the combination of methods proposed appropriate and justified?

<p>Reviewer x1. <i>Probably, a key messages section for decision makers could be useful</i></p>	<p><i>A Key messages for decision makers will be provided in the final report</i></p>
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	<i>along with a short 2 page document with key messages</i>
Reviewer x2. <i>The focus is correctly on public and private stakeholders / actors. However, as the implementation and post-monitoring of many restoration projects would benefit from both the early involvement of communities / civil society, a focus should also possibly be on this aspect. Also the choice of NGOs should include institutes / associations of professionals and particularly the key ones of engineers, architects, landscape architects and planners.</i>	<i>We have included NGOs as an actor group to be considered.</i>
Reviewer x4. <i>Yes</i>	<i>Thank you, this comment is well received</i>
Reviewer x5. <i>It seems so. Take care not to stick too much on methodological considerations which may blur your original need for information.</i>	<i>Thank you for this comment which will be well considered</i>
Reviewer x6. <i>No comment</i>	<i>No Comment required</i>
Reviewer x7. <i>Yes</i>	<i>Thank you, this comment is well received</i>
Reviewer x8. <i>I think so.</i>	<i>Thank you, this comment is well received</i>
Reviewer x9. <i>Yes. In table 1, however, I would add a "financial" category to the "dimensions of ER". This is distinct from economic and deals with the financial planning / business planning of restoration operations and restoration operators. This can be an obstacle for some, and certainly an obstacle for expansion.</i>	<i>We have done this thank you</i>
Reviewer x10. <i>I think, it is, however, it does not indicate, if ALL member states and all land use types will be truly covered and represented? (lines 139-141; 159-161; 176-179)</i>	<i>Table 1 is a brief summary table which by default covers all land use types and member states based on available information</i>
Reviewer x11. <i>Yes</i>	<i>Thank you, this comment is well received</i>

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Reviewer x12. In Table 1 I would suggest clarification of the term "Adaptive" (column Adaptive Management)	Basically adaptive means that restoration practitioners learn from evaluations and previous experiences, and it is the change based on learning that makes the process adaptive.
Reviewer x13. Apart from my point above, yes.	no comment required
Reviewer x14. The process makes sense, although not clear about the scale.	We hope to cover all ecosystem types and across all EU Regions
Reviewer x15. Suggestion : Explain a little more what you expect to find during the literature review, and why it is complementary to the second approach (expert consultation). I'd expect the outcomes of two methods to be different	We are aiming to include as wide a view as possible, the literature review will cover the scientific literature, while the Delphi process will be targeted towards a wide variety of people working in policy, management, practitioners and many other areas, we are aiming to seek input from the widest possible sources so yes we anticipate we will receive differing responses from the two approaches.
Reviewer x16. Yes	Thank you, this comment is well received
Reviewer x17. I think so	Thank you, this comment is well received
Reviewer x18. Yes	Thank you, this comment is well received

Is there an undue emphasis on one step/research question? If so, how might it be overcome? On the contrary, should one step/research question be looked into more?

Reviewer x1. I think that lack a research field in "micro-plastics"	We do not see the relevance here to restoration.
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<p>Reviewer x2. <i>The emphasis is correctly on one aspect i.e what are the impediments to effective restoration ? I think this may hopefully outline / detail the impediments to effective restoration and additional work/research can then be targeted at providing some possible solutions or stimulate projects through existing structures (Universities, NGOs, administrations etc)</i></p>	<p>EKLIPSE has open call for requests, so that policy-makers and societal actors can tell us what they need, and can discuss with us how we can best meet their needs. The project as such does not have the means for implementation, but we work alongside requesters and other stakeholders to publicize the results of our work and encourage the consideration of our outputs in further work. However we have included questions within the Delphi asking for solutions so we will be addressing this.</p>
<p>Reviewer x4. <i>Yes, subject to the comment below</i></p>	<p><i>Thank you for the feedback</i></p>
<p>Reviewer x5. <i>I trust that the choice of the methods will be O.K. Take care that the content of questions is clear and unambiguous.</i></p>	<p><i>Yes, we will be very careful about this, a further explanation is provided in the Final protocol document.</i></p>
<p>Reviewer x6. <i>No comment</i></p>	<p><i>No comment required.</i></p>
<p>Reviewer x7. <i>We would, already at that stage, include a framework for effectiveness evaluation of such researches</i></p>	<p><i>We discussed frameworks, but do not like to limit the scope of the call too much by a framework. However, in later stages we will probably include a framework to the outputs.</i></p>
<p>Reviewer x8. <i>No</i></p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x9. <i>Not really.</i></p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x10. <i>In this short and concentrated form the emphasis did not seem unbalanced. Although when to imagine the amount and kind of work behind, it might be.</i></p>	<p><i>We are unsure in what way it appears unbalanced so it is difficult to respond</i></p>
<p>Reviewer x11. <i>I find that aquatic ecosystems are not visible in the methodological approach (just referring to land use and tenure)</i></p>	<p><i>When we refer to land use we are covering all ecosystems types including aquatic.</i></p>
<p>Reviewer x13. <i>No opinion.</i></p>	<p><i>No comment required</i></p>
<p>Reviewer x14. <i>-</i></p>	<p><i>No comment required</i></p>

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Reviewer x15. OK	<i>Thank you, this comment is well received</i>
Reviewer x16. all ok here	<i>Thank you, this comment is well received</i>
Reviewer x17. I think it is all well and good in general, but trying to look more deeply at the methodology of the ecological approach used could be the way to improve restoration.	<i>Thank you I hope our approach will assist with this.</i>
Reviewer x18. No	<i>Thank you, this comment is well received</i>

Are appropriate and up-to-date sources used? Do you know of any additional sources, examples which we could use and where (please be as precise as possible)?

Reviewer x1. https://www.ipbes.net/deliverables/3bi-land-degradation	<i>This has been included in the Protocol, thank you</i>
Reviewer x2. https://naturalscience.tcd.ie/natureplus/	<i>Thank you</i>
Reviewer x4. Yes	<i>No comment required</i>
Reviewer x5. This is not my field of expertise.	<i>No comment required</i>
Reviewer x6. -	<i>No comment required</i>
Reviewer x7. As we do not work with ecosystem services, it's difficult to assess the relevance of the sources	<i>No comment required</i>
Reviewer x8. It seems OK (I don't know the references.)	<i>No comment required</i>
Reviewer x10. no	<i>No comment required</i>

Reviewer x11. Yes	No comment required
Reviewer x12. They're OK.	No comment required
Reviewer x13. n/a	No comment required
Reviewer x14. SEPA (Scottish Environment Protection Agency) has been developing and internal document on lessons learned through all river restoration processes (from scoping, stakeholder engagement, construction, monitoring....etc) , but I am not sure this can be circulated, is an informal document.	Thank you for this information
Reviewer x15. OK	No comment required
Reviewer x16. previous Life and Life+ project managers	Thank you for this information
Reviewer x17. References in addition: - Benayas, José M. Rey, et al. "Enhancement of biodiversity and ecosystem services by ecological restoration: a meta-analysis." <i>science</i> 325.5944 (2009): 1121-1124. - Bullock, James M., et al. "Restoration of ecosystem services and biodiversity: conflicts and opportunities." <i>Trends in ecology & evolution</i> 26.10 (2011): 541-549. - Comín, Francisco A., et al. "Prioritizing sites for ecological restoration based on ecosystem services." <i>Journal of Applied Ecology</i> 55.3 (2018): 1155-1163. - van de Leemput, Ingrid A., et al. "Slow recovery from local disturbances as an indicator for loss of ecosystem resilience." <i>Ecosystems</i> 21.1 (2018): 141-152. - O'Brien, Katherine R., et al. "Seagrass ecosystem trajectory depends on the relative timescales of resistance, recovery and disturbance." <i>Marine pollution bulletin</i> 134 (2018): 166-176. - Hélias, Arnaud, Juliette Langlois, and Pierre Fréon. "Fisheries in life cycle assessment: Operational factors for biotic resources depletion." <i>Fish and Fisheries</i> 19.6 (2018): 951-963.	Thank you for this information
Reviewer x18. Restoration is a very broad concept and it is unclear if and to what extent rewilding initiatives, as a type of restoration project, are considered in this study. Within the restoration context, rewilding is aligned with newer visions of restoration such as 'Restoration v. 2.0' or 'open-	Thank you for this information

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<p><i>ended restoration' that are process-oriented and recognize the dynamism of landscapes and of ecological processes. This concept is gaining momentum and becoming increasingly influential in restoration ecology and conservation science. Many rewilding initiatives are emerging in Europe (e.g., those in the European Rewilding Network: https://rewildingeurope.com/european-rewilding-network/) and beyond with multiple actors involved (e.g., farmers, hunters, tourists, and local residents), leading to the emergence of an empowering environmental narrative, which has been coined 'Recoverable Earth'. I encourage explicit mention of rewilding initiatives to ensure that the literature on this topic is checked in the scoping review and for the identification of actors.</i></p>	
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Any further general comments:

<p>Reviewer x1. No</p>	<p>No comment required</p>
<p>Reviewer x2. IFLA Europe were involved in the first EKLIPSE call. As an organisation of landscape architects, we feelk that our profession has much to offer in terms implementing and ensuring appropriate restoration and creation of new 'ecotones' can benefit both civil society, provide enhanced public spaces in urban areas and a more ecologically appropriate approach generally to landscape design, construction and management.</p>	<p>Thank you for this information, we will ensure you are included in our stakeholder groups.</p>
<p>Reviewer x4. Lines 174 to 185 - Step 3, in particular Table 1. The 'Steps of ER' describe the typical stages of a restoration project and thus leads the thinking towards the problem being related to project execution. This risks missing a major area where barriers can be found, which is in the wider policy, regulatory and economic context that</p>	<p>By working in coordination with the Dimensions of ER across all phases of Ecological restoration we believe we are providing the greatest possible opportunity to bring into the discussion</p>

<p><i>enables (or encourages) projects to be conceived in the first place. For example, barriers can be a consequence of the agri-business economic model, rural and urban planning incentives and economic drivers, even corporate governance and market issues that prioritise shareholders rather than environment. Whilst this could be considered under the Planning step, i.e. an initiative is not planned in the first place, it is a separate underlying question.</i></p>	<p>the wider policy, regulatory and economic contexts across all phases of ecological restoration. Our approach aims understand the implications of incentives and economic drivers through this cross table context. We are focusing on overview, and therefore it is not our purpose to examine detailed contextual variables. However, we are aware of this and will cover / mention it briefly as a potential gap in our approach, if it does prove to be.</p>
<p>Reviewer x5. <i>No further comments</i></p>	<p><i>No Comment required</i></p>
<p>Reviewer x6. <i>See above</i></p>	<p><i>No Comment required</i></p>
<p>Reviewer x10. <i>I am very pleased that this kind of initiative is undertaken. I am facing diferent problems in ecological restoration in my country, as I am sitting on many chairs in my country - I am a land manager in a restored area, I was a Project manager, restoring huge area and now I am working in University, doing research on restoration suces. And thee are lots of problems and shortcomings in this process. As many of them come from EU and national regulations and also poor planning and lack of knowledge (note, I did not put lack of money first!), then this kind of study coul help to bring these problems in light more clearly and hopefully suggest some Solutions. Especially regarding CAP.</i></p>	<p><i>Thank you for this considered response we will include this feedback as we develop the project</i></p>
<p>Reviewer x14. <i>There is no mention to Education (to all levels, school, etc.). That is another facto to consider.</i></p>	<p><i>Good point. Thank you for highlighting the importance of communication at many levels</i></p>
<p>Reviewer x17. <i>This is a my paper regarding natural biotic resources and the discussion on how to account for it in LCA. I think this paper could be of added value for this work. The topic is highly significant, considering, for example, the large global consumption of fish from wild fisheries, or that overharvesting of natural wood resources</i></p>	<p><i>Thank you for this very interesting information. We will consider this as we move forward.</i></p>

General comments

<p><i>is typically not accounted for in LCA. The study makes an important step in compiling what was done so far on biotic resources in LCA, in gathering renewal times as basis for CFs for a number of species (focussing on fishes and wood, but not exclusively), and in demonstrating that there are still large research gaps. This paper can help to focus thanks to the LCA approach, what methods can be used to improve the problems encountered in restoration. - Crenna, Eleonora, Sara Sozzo, and Serenella Sala. "Natural biotic resources in LCA: Towards an impact assessment model for sustainable supply chain management." Journal of cleaner production 172 (2018): 3669-3684.</i></p>	
<p>Reviewer x18. <i>I recommend broadening the scope of the introduction to include rewilding initiatives, and green AND BLUE infrastructure. One of the key reasons why the progress towards restoration targets has been very limited is the lack of measurable targets. In moving towards the adoption of a more ambitious and science-based, measurable target on biodiversity restoration, including rewilding principles, we recently published a monitoring framework that follows rewilding principles and that might be useful to check for this work: http://rstb.royalsocietypublishing.org/content/373/1761/20170433?fbclid=IwAR1jkKOplbZYpdwzfanG6Nk59tTSC8iZQTjmi4000uVEfkmDjCDBIAgiCBg&utm_source=trend_md&utm_medium=cpc&utm_campaign=TrendMD_RS_Editorial</i></p>	<p><i>Thank you very much for this important information which we will consider as we progress forward</i></p>

Are you interested in the further developments of this request?

<p>Reviewer x1. Yes, I am interested</p>	<p>Thank you we will keep you informed</p>
<p>Reviewer x2. Yes, I am interested</p>	<p>Thank you we will keep you informed</p>
<p>Reviewer x3. Yes, I am interested</p>	<p>Thank you we will keep you informed</p>
<p>Reviewer x4. Yes, I am interested</p>	<p>Thank you we will keep you informed</p>
<p>Reviewer x5. Yes, I am interested</p>	<p>Thank you we will keep you informed</p>

Reviewer x6. Yes, I am interested	Thank you we will keep you informed
Reviewer x7. No, I am not interested	Thank you for your input to date
Reviewer x8. Yes, I am interested	Thank you we will keep you informed
Reviewer x9. Yes, I am interested	Thank you we will keep you informed
Reviewer x10. Yes, I am interested	Thank you we will keep you informed
Reviewer x11. Yes, I am interested	Thank you we will keep you informed
Reviewer x12. Yes, I am interested	Thank you we will keep you informed
Reviewer x13. Yes, I am interested	Thank you we will keep you informed
Reviewer x14. Yes, I am interested	Thank you we will keep you informed
Reviewer x15. Yes, I am interested	Thank you we will keep you informed
Reviewer x16. Yes, I am interested	Thank you we will keep you informed
Reviewer x17. Yes, I am interested	Thank you we will keep you informed
Reviewer x18. Yes, I am interested	Thank you we will keep you informed

Comments by section

Title

<p>Reviewer x1. In my opinion, it is possible to replace effectiveness by viability</p>	<p>Unfortunately we are unable to change the title as this is the title of the project developed following the initial Request and Scoping process of the initial request, please see Eclipse Document of work: Restoration effectiveness Request, April 2018 for more details.</p>
<p>Reviewer x2. What are the main impediments (social, economic, political, scientific, etc.) to the restoration of biodiversity and ecosystem function and services.</p>	<p>Unfortunately we are unable to change the title as this is the title of the project developed following the initial Request and Scoping process of the initial request, please see Eclipse Document of work: Restoration effectiveness Request, April 2018. The impediments you suggest are included in the document itself.</p>
<p>Reviewer x7. -</p>	<p>No response required</p>
<p>Reviewer x8. ok</p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x10. no comments</p>	<p>No response required</p>
<p>Reviewer x11. OK</p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x14. It is ok for me, it might take a while to understand to someone less familiar with jargon.</p>	<p>Thank you for this comment which will be considered as the protocol is implemented. The title of the project has been developed following the initial Request and Scoping process of the ini-</p>

Comments by section

	tial request, please see Eclipse Document of work: Restoration effectiveness Request, April 2018
Reviewer x16. ok	<i>Thank you, this comment is well received</i>
Reviewer x17. the title is appropriate but long	Thank you for this comment which will be considered as the protocol is implemented. The title of the project has been developed following the initial Request and scoping process of the initial request, please see Eclipse Document of work: Restoration effectiveness Request, April 2018

Introduction

Reviewer x2. The introduction could include reference to the political impediments (lack of policy or inappropriate / ineffective policies). The lack of monitoring and information on outcomes and management of outcomes may be explored a little more (although this is probably more the task of the researchers).	We have expanded the introduction to show the linkages to existing policy to ensure that it is clear that we are connecting our work to Policy documents. The other comments are indeed suggestions of barriers which our methodology when implemented should bring to the fore.
Reviewer x7. Maybe add research on the BAT (best available techniques) in effectiveness evaluation of ecosystem restoration	Thank you, we have included approaches which currently exist specifically related to measuring restoration effectiveness, and included the BAT approach for consideration.
Reviewer x8. ok	<i>Thank you, this comment is well received</i>
Reviewer x10. It is appropriate, I do agree	<i>Thank you, this comment is well received</i>

Reviewer x11. Could be improved by providing examples of key ecosystem services that are valuable for the society.	Thank you for this helpful comment some examples have been provided, as has some discussion around the interactions between restoration, ecosystems services and biodiversity.
Reviewer x16. ok	<i>Thank you, this comment is well received</i>
Reviewer x17. In the introduction from 88 to 92 I find the examples too specific, we could perhaps give more general examples related to restoration.	We have expanded this section to be more inclusive of potential connections to restoration, particularly from a Policy perspective

The request

Reviewer x2. I suggest the request is amended slightly. 'What are the impediments to the effective implementation of ecological restoration projects and how may these impediments be addressed ?	Unfortunately we are unable to change the request, as this is the product of an initial Request and Scoping process. Please see Eclipse Document of work: Restoration effectiveness Request, April 2018.
Reviewer x7. -	No response required
Reviewer x8. ok	<i>Thank you, this comment is well received</i>
Reviewer x10. As an outsider I do understand and can follow the idea.	<i>Thank you, this comment is well received</i>
Reviewer x11. In my view economical and political constrains are the main factors hampering ecosystem restoration and these are very difficult to solve and often beyond the power of scientists	Thank you for your comment, we feel the methodology we have proposed provides opportunities to cover a number of areas including economic and political constraints.
Reviewer x13. As stated previously, I feel that the original request had a purpose to determine whether we have	Effective restoration requires the interaction of multidimensional factors

Comments by section

<p>sufficient information (and lack of will), or insufficient information, and I think the new subject just slightly dilutes that.</p>	<p>and as such requires multidimensional responses and understandings, this request provides opportunities to not only identify information and knowledge status but also the many other interacting dimensions which lead to effective restoration.</p>
<p>Reviewer x16. The question can be formulated in a more straightforward way, e.g., "What is hampering the restoration of biodiversity and ecosystem function and services?"</p>	<p>Unfortunately we are unable to change the formulation, as this is the product of an initial Request and Scoping process. Please see Eclipse Document of work: Restoration effectiveness Request, April 2018.</p>
<p>Reviewer x17. I find in theme with the objective of the review</p>	<p><i>Thank you, this comment is well received</i></p>

Objectives

<p>Reviewer x2. The objectives focus on assessment of 'the current knowledge of the reasons'.....perhaps more a focus on the reasons per se and to also focus on and provide an outline of how these impediments may be overcome.</p>	<p>Some additional wording has been added to reflect your comments</p>
<p>Reviewer x7. Private land-owners could be added to stakeholders</p>	<p>This has been added</p>
<p>Reviewer x8. ok</p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x10. ok</p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x11. OK</p>	<p><i>Thank you, this comment is well received</i></p>

<p>Reviewer x14. I missed something about how this document would link to EU governance.</p>	<p>Information related to EU governance has now been included in the Introduction section and also in this section</p>
<p>Reviewer x16. ok</p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x17. I think so clear</p>	<p><i>Thank you, this comment is well received</i></p>

Methodological approach

<p>Reviewer x1. Probably is better to define the type of ecosystems included (Terrestrial or Aquatic). In the case of terrestrial ecosystems, soil reclamation is normally ignored, because restoration and reclamation projects many times are developed by biologist, with limited edaphological knowledge.</p>	<p>We refer to land use type which incorporates the different ecosystem types across the EU. As we implement our two-step process we will identify the land use type/ecosystem in which stakeholders are involved. We have clarified this in the Final Protocol.</p>
<p>Reviewer x2. Seems very clear. Of course, the questions asked and how they are perceived will have an influence. Careful targeting of the appropriate personnel within the stakeholders/actors and clear questions will assist in getting as much useful data as possible. Allowing some anonymity may also allow 'greater freedom' in providing answers.</p>	<p>Our approaches ensure anonymity and we have been extremely careful and conscious to ensure that all involved will have the greatest freedom and feel comfortable in responding honestly and openly. We are also applying a strict methodology and consistency in the question development.</p>
<p>Reviewer x3. I'm not sure if the quantification that is proposed (a.e. Delphi process) is appropriate because it could mask or minimize some detected problems or limitations. In order to reduce this risk the results of this process must be joined to an extensive interpretation.</p>	<p>We have ensured that by adopting two parallel processes we will receive a wide range, and separation of responses, and also avoid and reduce limitations. The proposed stakeholder group is extremely wide ranging which the Delphi process is able to accommodate while remaining transparent.</p>

<p>Reviewer x4. Lines 174 to 185 - Step 3, in particular Table 1. The 'Steps of ER' describe the typical stages of a restoration project and thus leads the thinking towards the problem being related to project execution. This risks missing a major area where barriers can be found, which is in the wider policy, regulatory and economic context that enables (or encourages) projects to be conceived in the first place. For example, barriers can be a consequence of the agri-business economic model, rural and urban planning incentives and economic drivers, even corporate governance and market issues that prioritise shareholders rather than environment. Whilst this could be considered under the Planning step, i.e. an initiative is not planned in the first place, it is a separate underlying question.</p>	<p>By working in coordination with the Dimensions of ER across all phases of Ecological restoration we believe we are providing the greatest possible opportunity to bring into the discussion the wider policy, regulatory and economic contexts across all phases of ecological restoration. Our approach aims understand the implications of incentives and economic drivers through this cross-table context. We are focusing on overview, and therefore it is not our purpose to examine detailed contextual variables. However, we are aware of this and will cover / mention it briefly as a potential gap in our approach, if it does prove to be.</p>
<p>Reviewer x7. What are the information collection methods in the methodology ? is it only the questionnaire ? Maybe cooperation with European instruments such as the Aarhus Convention could be foreseen</p>	<p>No, we are using a two-step process running in parallel, including a literature review and a Delphi process.</p>
<p>Reviewer x8. What do you mean with "a priori search terms"? Are they based on the review or the EWG's experience/feelings?</p>	<p>They have been developed based on initial searches and their findings and then finalizing the final terms based on that initial work. The search terms have been included in the final protocol.</p>
<p>Reviewer x9. I would add "financial" barriers to ecological restoration in Table 1 (i.e. financial & business planning of operations and operators, which is different from the overall economics of restoration as seen by e.g. public agencies).</p>	<p>Thank you for this comment, we will incorporate this into the table.</p>
<p>Reviewer x10. ok</p>	<p><i>Thank you, this comment is well received</i></p>
<p>Reviewer x11. OK</p>	<p><i>Thank you, this comment is well</i></p>

	<i>received</i>
Reviewer x13. It will be interesting to see the search terms that can identify gaps in what has been carried out.	These have been included in the Final protocol.
Reviewer x14. Ok, but uncertain about the level of detail. See my comments on previous form.	We feel the detailed approach being used will provide a high level of detail.
Reviewer x16. in the last column of the table under Step 3, "adaptive management" is a vague formulation and can be further clarified ("adaptive management" could in fact describe the ensemble of the previous 4 columns). Also in the same table, it would be nice to standardize the description of the obstacles, e.g. by including the type of actor that incurs in the obstacle for further grouping and analysis.	The table provided here is a summary version of the full table we are working on throughout the Delphi process. The full table outline is too large to include here but will be referred to in the final report.
Reviewer x17. As mentioned above, I would give more emphasis to work that takes into account the following methodological approaches related to human-dominated ecosystems: - adaptive - complexity - resilience	Thank you, these terms will be well considered throughout the implementation of the Methodological approach.

Expected outputs

Reviewer x2. Fine.	<i>Thank you, this comment is well received</i>
Reviewer x7. -	No comment required
Reviewer x8. Fine	<i>Thank you, this comment is well received</i>
Reviewer x9. It would be useful to illustrate outputs with case studies. This can be done during the process overall.	Thank you this is a point well received and will be included in the final report.
Reviewer x10. ok	<i>Thank you, this comment is well received</i>

Comments by section

<p>Reviewer x11. Vague, is not clear how a single report and policy briefings are going to reach all actors involved in the restoration process.</p>	<p>Thank you. We cannot expand on this until we have identified all the actors, and established the findings, we will expand on approaches and the places of dissemination as the outcomes of the project become available. It is the output results which may also determine the best approach to reach a very wide audience, and who the most appropriate audience may be.</p>
<p>Reviewer x13. Output 2 is quite vague</p>	<p>The opportunities for policy briefings can only be identified once the content of the process has been analysed and summarized, so for this reason this point cannot be more specific at this stage.</p>
<p>Reviewer x14. No clear the level of detail. For me the main one would be a very concise paper (1-2) pages that can be easily read by policy makers.</p>	<p>Thank you, this has been added and is a very important point</p>
<p>Reviewer x16. Under "Expected outputs", maybe a scientific paper could already be generated by this methodology.</p>	<p>Thank you for this comment, it will be considered as an additional side output</p>
<p>Reviewer x17. the research is based on data already in possession, you only have to implement the work of reading and collecting data on issues. the budget requires work reading and implementation of the research group that can work online and 1 or 2 meeting.</p>	<p>No this is not correct, the extensive work involved in the Delphi process through the collection of stakeholders and their responses will be very new data which currently does not exist. The literature scoping review will analyse existing information to answer the question posed. The method proposed is highly complex as the topic of restoration is in itself highly complex.</p>

Project timelines

Reviewer x2. Fine	<i>Thank you, this comment is well received</i>
Reviewer x7. -	No Comment required
Reviewer x8. I don't know the schedule of the participants.	No Comment required
Reviewer x10. the team must be big:) or i can see, that it is only testing the method and it could not cover all EU member states and land use types and stakeholder groups?	We are a group of 11 people, and have a number of limitations due to the wide scope of the call as you so rightly mention, we are attempting to cover the widest scope possible within the limitations imposed such as time and resources.
Reviewer x11. Identification of stakeholders: in all EU, from at least 3 levels?	We are doing our best to reach all these levels and will outline any limitations we have in the final report. This is very ambitious.
Reviewer x13. Some of the processes have been started even before this feedback has been received. I take it that you are not expecting major revisions. Presumably the review is well underway, as it is due to end in a few weeks. That feels quite ambitious.	The Report is not due until the end of June 2019. We have modified some dates and approaches following the review feedback and discussions amongst the expert group. We have extended the date to finalise the literature review until early April.
Reviewer x14. Tight. I guess the outcome will be less ambitious than I expected by reading the document.	We have adjusted the timelines and approaches to ensure we have the best possible information for our final report at the end of June 2019
Reviewer x16. ok	<i>Thank you, this comment is well received</i>
Reviewer x17. 6/8 months	No Comment required

References

Comments by section

Reviewer x1. https://www.ipbes.net/deliverables/3bi-land-degradation	This reference has been included thank you
Reviewer x2. N/A. No immediate references 'spring to mind'.	<i>Thank you, this comment is well received</i>
Reviewer x7. -	No Comment required
Reviewer x8. none	<i>Thank you, this comment is well received</i>
Reviewer x10. ok	<i>Thank you, this comment is well received</i>
Reviewer x11. OK	<i>Thank you, this comment is well received</i>
Reviewer x16. ok	<i>Thank you, this comment is well received</i>
Reviewer x18. Torres, A., Fernández, N., Ermgassen, S.z., Helmer, W., Revilla, E., Saavedra, D., Perino, A., Mimet, A., Rey-Benayas, J.M., Selva, N., Shepers, F., Svenning, J.C., Pereira, H. (2018) Measuring rewilding progress. Philosophical Transactions of the Royal Society B. 20170433. N Fernández, LM Navarro, HM Pereira (2017) Rewilding: a call for boosting ecological complexity in conservation. Conservation Letters 10 (3), 276-278	Thank you, these references will be incorporated into our methodological assessment

Any other comments?

Reviewer x1. No	No Comment required
Reviewer x2. No	No Comment required
Reviewer x5. Is there already a list of relevant questions that will be sent to stakeholders? Who do you select with which criteria for answering these questions? I am more	The expert group has worked very hard as a group to develop the questions and to identify a comprehensive

interested in the results than considerations on the methodology of this interview.	list of stakeholders. The results will be very interesting
Reviewer x8. none	No Comment required
Reviewer x17. no thanks	No Comment required