CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION

Working Group on Effects

International Cooperative Programme on Modelling and Mapping

MINUTES

of an informal meeting regarding the review of the empirical Critical Load, Dessau, Germany, 2 December 2019

Participants: Markus Geupel, Christin Loran, Thomas Scheuschner (all CCE/UBA), Anne Katrin Prescher (Thünen Institute), Kai Schwärzel (ICP Forests), Roland Bobbink

via phone: Alice James (Chair ICP M&M), Harry Harmens (ICP Vegetation), Reto Meier (BAFU/ NFC ICP M&M Schweiz)

Introduction

After a quick introduction of the participants Mr Thomas Scheuschner presented the current status regarding the empirical Critical Load. He also presented a draft roadmap for the revision of the emp CL highlighting the fact that the preparation phase is supposed to last till mid-2020.

Results of the literature study (A.Prescher, TI)

Ms Anne-Katrin Prescher (Thünen Institute of Forest Ecosystems) presented the preliminary results of her pilot literature review. First, Ms Prescher gave a short overview on critical loads and the EUNIS habitat classification before presenting her methodology for the literature search. Using different data bases, there were 928 publications matching the searching criteria. About 45% of theses have been identified as studies on dose-response-relationships between N addition and different ecological response variables. Allocating the appropriate EUNIS class to the studies, Ms Prescher showed that 45% of the studies are studying EUNIS class T (Woodland, forest) followed by EUNIS class S (Heathland, scrub, tundra) and EUNIS class E (grassland) with 26% and 13%, respectively. Most studies took place in the US and Canada, and regarding Europe, in Spain and UK. Ms Prescher also analyzed the used experimental set-up, revealing that 60% of the studies are field based, 46% consider more than 2 application levels of nitrogen and 51% run the treatment for at least 7 years. Regarding the N deposition background load, 91% of the study sites have a background N load below 10 kgN ha^{-1} a^{-1}. Finally, Ms Prescher showed that the response variables and additional studied factors are manifold. Ms Prescher concluded that several studies are available which might close some of the gaps mentioned in Bobbink (2011).

Recommendations for the update of European empirical Critical Load (all)

Roland Bobbink described very detailed the institutional, legal and scientific framework of the creation of the previous empirical Critical Load in the year 2010. Especially the advantages of having an external contractor were discussed in length. The cost for the last revision in 2010 was approx. 130.000 € and was financed by Netherlands, Germany and Switzerland.

Harry Harmes (ICP Vegetation) expressed the strong intentions to include the expertise of the ICP Vegetation in this process.

Kai Schwärzel (ICP Forests) also expressed such intentions. The PCC will announce the project to the ICP Forests Expert Panel on Biodiversity and Ground Vegetation at the upcoming meeting in Kutna Hora, Czechia, in March 2020 and will encourage an involvement in the project for the EUNIS class of "Forest and other wooded land".

CCE explained how parts of the current Call for Data of the ICP M&M will support the identification of the national experts and the building of the scientific network.

To broaden the literature review and data base for the determination of emp CL, the following options have been discussed. These have been not included in the former literature review, but may be worth for consideration as they can provide an indication or define the range of emp CL.

- Including gradient studies
- Including survey studies
- Including studies from non-European study sites if respective EUNIS class is covered

Further consideration needs to be given to how they can be included. This may be a task for the respective group of experts.

Recommendations from this discussion:

- Come up with a legal concept soon (including subprojects to organize the funding)
- Approach experts directly to participate in the process
- The whole process will be structured regarding the identified/relevant EUNIS classes
- Identify the possible financial contribution by UBA

Conclusion

The results of the Call for Data and the next steps will be discussed at the next ICP Modelling and Mapping meeting, April 2020 in Stockholm.

The search for experts and potential authors for the different Habitat type (EUNIS) specific chapters continues.

The ICP Vegetation invited the CCE to present this topic at the next TF ICP Vegetation meeting, end of January 2020 in Riga.

Annex I: Agenda

Agenda for the Workshop on empirical Critical Load	
13:00	Welcome and Organization
13:15	Introduction and objective of the workshop
14:00	Results of the literature study (A.Prescher, TI)
14:45	Coffee break
15:15	Recommendations for the update of European empirical Critical Load (all)
16:00	Discussion
17:00	Conclusion