Annual report for SNS research projects

Submit the report before March 1st to: sns@slu.se
The report should not exceed 1500 words (including words in the template).

1. Project title:	**Anthropogenic greenhouse gas emissions from organic forest soils: improved inventories and implications for sustainable management**
2. Reporting year:	**2017**

3. Project coordinator:	Raija Laiho
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Activities during the reporting year:

4. Description of the activities during the reporting year:

- Data analyses and drafting of the two major scientific papers that will be the main outcomes of the project. This work is mainly done by the researcher specifically hired to the project, Jyrki Jauhiainen who is working at Luke (Finland). All project partners have actively participated in commenting on the manuscripts.
- Data gaps were identified and based on those, a project proposal for the EU Life Climate instrument was prepared, coordinated by Andis Lazdins at Silava (Latvia). The proposal got a good score but was recommended for funding only if higher-scored proposals do not proceed to funding for some reason. We will resubmit a revised proposal if the next call still supports the topic, and will explore other funding opportunities.
- Due to limited data it became evident that it will not be possible to compile a catalogue of GHG mitigation measures for forest management on organic soils, as was initially planned. Instead, we have contributed to research proposals on this topic, and one major project where this will be dealt with got funded in Finland (Strategic Research Council of the Academy of Finland grant to consortium led by Raisa Mäkipää in Luke). This topic was also covered in the Life proposal, and we will continue efforts to initiate research also in other countries involved to include a more extensive range of soil and climatic conditions.

Place and date for the activities:

5. Activity	Place (country) for the activity	Duration (date)

6. Project status - Does the project develop according to the research plan? Please elaborate. - Does the project deviate from the plan? Please elaborate.
The project is developing according to the research plan. Year two (2017) was designed to the period during which the collated data are analysed and the scientific publications are drafted, so that they will become ready to be submitted in 2018. Aims i) (a synthesis report of the CO_2, N_2O, CH_4 and DOC emissions from organic forest soils in the Nordic and Baltic countries) and ii) (Tier 2 EFs for the key sources of GHG emissions in organic forest soils in the Nordic and Baltic countries, based on collated data and modelling) of the research plan are dealt with in one of the scientific papers that being drafted. Additionally, we noticed that we can and should compile a review paper dealing with the quite widely varying approaches that have been applied in soil greenhouse gas balance measurements in forests on organic soils. We have reviewed the pros and cons of the different methods, and will present recommendations based on which the applicability of any new data to be collected can be increased. This will be a valuable output from the project that we did not anticipate when writing the research plan. Aim iii) (a catalogue of GHG mitigation measures for forest management on organic soils) was reviewed but the limited amount of data for such analysis makes it impossible to produce a specific catalogue at this stage (see section 4 of this report). Currently we can simply state that water-level management is the key, but more precise recommendations can be given when the impacts of different management options, including continuous-cover management, have been quantified to the extent that they can be modelled. The water-table level impact in general will be dealt with in the scientific papers as well as in the dissemination to the public and forest professionals that will be done, especially, in 2018 when the results are ready. Aim iv (a common research agenda for future research to fill in any identified major data gaps) was targeted when preparing the Life project proposal in 2017, and this will be elaborated further in 2018.

Results during the reporting year:

7. List the published outputs during the reporting year (peer-reviewed articles, other publications):

8. Other practical outputs during the reporting year (e.g. websites, policy recommendations, conferences, large-scale project applications etc.)
Project proposal to LIFE Climate Change Mitigation instrument (result obtained in February 2018: conditional approval, not likely to proceed to funding) Poster presenting the project, *Jauhiainen J. et al.: GHG balance in drained organic forest soils – data revisited*, presented in the international workshop Carbon Cycling in Boreal Peatlands and Climate Change, arranged in Hyytiälä, Finland, 25th - 29th September 2017. A blog in Finnish (https://www.luke.fi/blogi/vahatteleeko-kasvihuonekaasuinventaario-turvemaiden-hiilipaastoja/) dealing with greenhouse gas inventory for forests on organic soils, as part of lively public discussion on the topic in Finland during Nov-Dec 2017.

9. Economic overview for the reporting year

Received grant from SNS for the reporting year:	Specify currency:
500 000 / 51 217	SEK / EUR

Costs. Please report costs without VAT.

2017	SNS funding **EUR**	External funds **EUR**	Total **EUR**
Travel and hotel	112		112 (2 547)
Meeting costs			
Communication	506		506 (646)
Consumables			(1951)
Salary	83 425*	6 428	89 853 (221 805)
(Other costs (specify below)) Overheads, services, VAT,		85 482	85 482 (224 447)
Total SUM	**84 043***	**91 910**	**175 953** (451 396)**

Transfer of SNS funds to project partners

Sum	Receiver of (partner) and reason for transfer
	No transfers in 2017

Comments to the economic overview:
*SNS funding includes transfer of EUR 32 827 from 2016, which was made possible by funding from the University of Helsinki in 2016. This has made it possible for the project to hire a full-time researcher for most of the project period, which in turn was a prerequisite for successfully fulfilling the aims of the project. **External funds in the table are direct Luke funding to the SNS-120 project. There has additionally been EUR 275 443 research funding to a complementary national project in Luke (PeatRoot). Altogether, total funding was thus EUR 451 396, and the share of SNS funding of total funding in Luke was 19% in 2017. Additionally, there has been national funding in all partner institutions, which are not reported here.

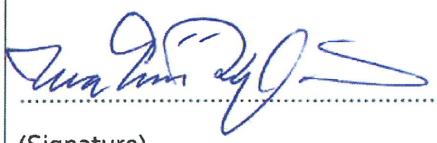
I hereby declare that the above statements are true to the best of my knowledge

Signature of the project coordinator

..... Natural Resources Institute Finland (Luke) 26 / 2 / 2018

(Signature) (Institution) (Day / Month / Year)

Signature of head of research institution



..... Natural Resources Institute Finland (Luke) 26 / 2 / 2018

(Signature) (Institution) (Day / Month / Year)

Eeva-Liisa Ryhänen, Vice President (Natural Resources), Natural Resources Institute Finland (Luke)

(Printed name, function)