

MID-TERM EVALUATION CONSENSUS REPORT

Reducing the effects of forest management to inland waters (REFORMWATER)

Name of Coordinator: Dr. Jukka Pumpanen

Project code: WaterWorks2017-REFORMWATER

Duration of project: 3-years

Start date: April 1, 2019

End date: March 31, 2022

FOLLOW-UP GROUP

Please include the data of the FG members reviewing the report

Name	Organisation
Teppo Vehanen	Natural Resources Institute Finland
Antoni Lo Porto	Istituto di Ricerca Sulle Acque IRSA-CNR (Water Research Institute)

1. Scientific and technological progress (Maximum 250 words)

The project aims at demonstrating the efficiency of sound forestry practices and biochar to control and treat nutrient content in runoff from managed forested areas to avoid discharge of such pollutants in lakes downstream. The project shows thus clear objectives, even though not really groundbreaking. There are some delays in the project deliverables, but nothing that would prevent the project to achieve its goals. On the other hand, some deliverables are even ahead of schedule. Reasons for the delays are understandable, COVID restrictions and exceptional weather conditions (winters). Overall the project is progressing as scheduled. The consortium has managed to carry out a large wealth of field activities before the outspring of the COVID pandemic which have, however, had a rather limited impact on project activities.

The methods used and created (biochar reactor), both in the field and lab, are adequate to produce the results needed to reach the project goals. These results achieved so far are promising.

The multi-disciplinary work in the project is mainly related to developing process-based model, which integrates field measurements with model development.

Project has successfully produced so far several scientific papers, other publications, courses and communications.

The MidTerm report has been written in a rather unprofessional way and it seems incomplete. The carried out activities are described in a “per-Country” fashion and in a very detailed way so that it is difficult to catch the overall proceeding. Furthermore only the activities done within WP1 and WP2 are reported. The writing style uses often the pronoun “we” instead of a third person.

In the report WP1 and 2 are described as having almost the same topic: “to study the potential to reduce DOM and nutrient load ... using ...biochar” (for WP1) and “to assess the potential of biochar in reducing the export of DOM and nutrient load” (for WP2).

2. Collaboration, coordination and mobility within the Consortium (Maximum 250 words)

Project coordination appears to be effective enough to synchronize the work of different partners, although the coordination activities are not clearly described. .

Based on the report the collaboration between project partners is in good level and it is possible to understand the good spirit of cooperation that has been built within partners. Field sites with coordinated and standardized monitoring is important to generalize the results, The transnational added value thus is great, also because of mobility actions put in place, despite the COVID19 pandemic thus transnationality is essential. For example, there has been mobility among Ph.D. students and visits. Project managed to keep meetings before the COVID outbreak, but ever since COVID has decreased mobility.

3. Coordination with other international project funded by WaterWorks2017, or other instruments (Maximum 250 words)

Collaboration with other projects funded by WaterWorks2017 has been not mentioned in the report. Clearly, the project could do more cooperation with other WaterWorks projects, like the WaterPeat-project. There are only few reported examples of coordination with other international or national R&D projects. The field and column experiments in Finland will be synchronized with an Academy of Finland funded project 'Cascading carbon flows in boreal forested catchments' (CASCAS) 2019-2023 and biochar section of the study has synergy with the ongoing project named "Marjo Palviainen"(!). Natural Resources Finland's 'SOMPA' project is closely related to 'REFORMWATER'. Otherwise project has been active in participating conferences and events.

4. Coverage of the themes and sub-themes of the call (Maximum 250 words)

The report does not declares which (Sub)Theme of the call is aiming to contribute to, which makes it rather difficult to guess this because the project idea is very operational/applicative. The aims of Reformwater are to quantify the effects of current management practices (harvesting and subsequent ditch network maintenance (DNM)) on peatland forests on the transport of DOM and aim is to develop state-of the art process-modelling techniques for assessing the effects of forest management practices on water quality. Also a novel tool based on biochar application to decrease the DOM is being created. In the call this primarily covers the Theme 1. Enabling sustainable management of water resources, where the overall aim for this theme is to develop new governance and knowledge management approaches. More precisely the Reformwater appears to deal with the Sub-theme 1.1. Promoting adaptive water management for global change, where the aim is to increase knowledge and to develop evidence-based methodologies and technologies for monitoring the cumulative impacts of human activities and climate change on the water cycle, but also to develop management options on the water cycle and water / ecosystem services. This knowledge must be applicable for the adaptive management of water resources on a regional scale, while enabling downscaling to address local or catchment situations.

5. Stakeholder/industry engagement (Maximum 250 words)

The project Reformwater aims to have the highest impact on forest owners, forest companies as well as policies. So far the project has been fairly successful in engaging with stakeholders and industry. Several contacts are in place notwithstanding the delays and difficulties due to the COVID pandemic. In Finland, a stakeholder field trip was organized to main study area. The land owner of the site, the forest company UPM, was also represented. Also other stakeholders in Finland have been engaged to the project through meeting and events. In Sweden workshop and meetings covering the industry and forest owners.

6. Recommendations for improvements/amendments of the report (Please complete Table below)

Page	Modification	Rationale for change
All	Use the third person	Not professional
3-6	The description of the activities carried out must be written in a more concise way, organized according the logic proceeding of the work and not organized per Country	
11-13	The Author could take some precious time of his own in order to include financial table readable and written in english and not in Finnish	

7. General Assessment Comments (Maximum 250 words)

The MidTerm report in a “per-Country” fashion. The progress of the project could have been better evaluated if the progress by different partners would have been integrated to reveal the development in project aims. Now it is difficult to catch the overall progress. However, despite of some delays, the project is on track. The cooperation among the partners appears to be in good level. The results so far are mostly preliminary, but promising.

The project would benefit in cooperating with other WaterWorks projects, like the WaterPeat-project.. The specific risks in the project are mainly related to the delays in Ireland. A suitable study site in Ireland should be located and sampling should be initiated.