

WATERWORKS 2017 RDI FUNDED PROJECTS BOOKLET

Project: Reducing the effects of forest management to inland waters

Acronym: REFORMWATER

Project Coordinator: Jukka Pumpanen, email: jukka.pumpanen(at)uef.fi
Institutions: University of Eastern Finland - Country: Finland

Project partners: Institutions: University of Helsinki - Country: Finland

Contact points: Anne Ojala, email: anne.ojala(at)helsinki.fi

Project partners: Institutions: Swedish University of Agricultural Sciences - Country: Sweden

Contact points: Hjalmar Laudon, email: hjalmar.laudon(at)slu.fi, Eliza Maher Hasselquist, email: eliza.hasselquist(at)slu.se

Project partners: Institutions: University of Tartu - Country Estonia Contact points: Ivika Ostonen, email: ivika.ostonen(at)ut.ee

Project partners: Institutions: University College Dublin - Country Ireland

Contact points: Florence Renou-Wilson, email: florence.renou(at)ucd.ie

Project structure (WPs description):

WP 1. Less-invasive forest management as a tool for reducing DOM load

In this WP, we will study potential ways to reduce the DOM and nutrient load from forested peatland catchments using different forest management options and biochar. We will compare the DOM export in experimental areas in following treatments: 1) uncut control forest, 2) thinning with ditch network maintenance, 3) clearcutting with ditch network maintenance and 4) continuous cover forestry without ditch network maintenance and after clear-cut and ditch network maintenance (treatment 5). The quality i.e. biodegradability of DOM will be determined from the water samples with incubation experiments and using molecule level cutting-edge techniques such as the FT-ICR-MS

WP 2. Biochar as a potential tool for reducing the export of DOM and inorganic nutrients to inland waters

In this WP, we will test the potential of biochar for capturing the inorganic nutrients and DOM released from the soil and therefore it decreases the nutrient export load. For testing this hypothesis, we will develop filters made of biochar for removing DOM and inorganic nutrients from water running in the ditches in the ditch network maintenance areas.

WP 3. Model-based tool for combined planning of peatland forest management operations and biochar filtering aiming to decrease DOM export load to water courses. In this WP, we will combine the experimental results from WP1-2 to develop a state-of-the-art process-based simulation model calculating the fate of DOM from peat to ditch, and through water protection filter to water bodies, and finally in the form of CO₂ to the atmosphere.

Contact persons for Communication activities: Jukka Pumpanen - email: jukka.pumpanen(at)uef.fi, Anne Ojala email: anne.ojala(at)helsinki.fi

Contact person(s) for Dissemination activities: (for open data & open access activities): Marjo Palviainen, email: marjo.palviainen(at)helsinki.fi - Elina Peltomaa, email: elina.peltomaa(at)helsinki.fi