

WATERWORKS 2017 RDI FUNDED PROJECTS BOOKLET

Title of the project: Water management for sustainable use and protection of peatlands

Keywords: Hydrology, water quality, peat, remote sensing, modelling, land use, water protection, restoration.

Outcomes and expected impact:

The proposal is expected to develop looks land and water management solutions for different type of peatlands' environmental and socio-economic challenges. This work is expected to improve decision makers to select solutions to mitigate global change impacts (pollution, GHG emission, biodiversity loss) of typical peatland uses such as forestry, agriculture and peat extraction. The work will also examine water management options that maintain or improve surface water quality, improve environmental protection (reduced leaching) and restoration of peatlands (improved water retention, biodiversity, carbon (C) sequestration).

List of deliverables expected:

- D1.1 Methods to cost-efficiently delineate peatland catchments and observe land use changes
- D1.2 Data and information on key water quantity and quality processes from experimental sites
- D2.1 Literature review on restoration, water treatment methods and land management options
- D2.2 Report on mitigation experiments (leaching control, drainage and runoff water treatments)
- D3.1 Visually appealing (high quality) schematics on peatlands processes and mitigation options
- D3.2 Report on modelling, analysis of extreme events and assessment of future climate impacts, including a set of model parameter ranges for soft calibration of hydrological models
- D3.3 Options for efficient monitoring: a synthesis report on methods with applications to important management cases

Additional deliverables are related to dissemination, communication activities and project management.

Contact persons for Communication activities

Bjørn Kløve bjorn.klove@oulu.fi / Mark Healy mark.healy@nuigalway.ie / Hanna Silvennoinen hanna.silvennoinen@nibio.no

Contact person(s) for Dissemination activities

Bjørn Kløve bjorn.klove@oulu.fi / Mark Healy mark.healy@nuigalway.ie / Hanna Silvennoinen hanna.silvennoinen@nibio.no

Expected research results to communicate and disseminate:

1. Improved information on hydrology of drained peatlands
2. Information on peatland restoration
3. Data on drainage and water quality impacts and methods to limit impacts
4. Methods for remote sensing to observe peatland processes

Target groups for communication and dissemination activities:

- Researchers, consultants, planners.
- Policy makers, land use planners, restoration agencies.
- Consultants, policy makers, scientific community.
- Researchers, consultants, planners.

Case studies:

Ruukki, Finland – peatland agriculture (grass) on acide sulphate soils
 Akersmyra, Norway - peatland forestry
 Garryduff and All Saints bogs, Ireland – cutaway bogs used for peat extraction
 Pedang Island, Indonesia – A peat island used for plantation forestry and small scale forestry and agriculture

Farmers, land owners, peat extraction companies, forestry services.