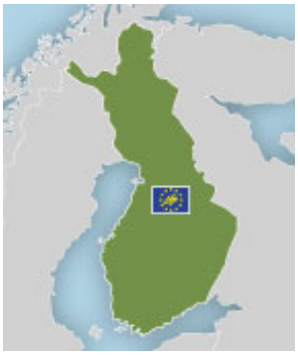

LIFEPeatLandUse - Quantification and valuation of ecosystem services to optimize sustainable re-use for low-productive drained peatlands

LIFE12 ENV/FI/000150

[Project description](#) [Environmental issues](#) [Beneficiaries](#) [Administrative data](#)
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Project description:

Background

The natural state of mires in Finland has deteriorated as a result of large-scale drainage, the consequent overgrowing of open mires and the isolation of pristine mires. Large-scale drainage has also significantly increased environmental loading (i.e. the leaching of nutrients, suspended solids and organic matter from peatlands to downstream watercourses) and widely weakened the state of these water bodies. Northern peatlands, the target ecosystem, play an important role in the global carbon cycle. In their pristine state, mires sequester large amounts of atmospheric carbon dioxide (CO2), and peatlands have been major global carbon stores for millennia. Peatlands are also natural sources of another greenhouse gas (GHG), atmospheric methane (CH4).

Appropriate peatland use can protect the carbon store, and suitable reuse options can decrease the GHG emissions and create conditions for carbon sequestration and peat formation in drained and degraded peatlands. Thus, there is a need to find solutions for the management of peatlands to minimise the emissions of GHG. Without proper knowledge landowners or policymakers may carry out actions which conflict with the objectives of water protection and conservation of natural habitats, wild fauna and flora. The challenge is to develop mechanisms that can balance the conflicting demands on the use of peatlands and to ensure their sustainable use.

Objectives

The main objective of the ‘LIFEPeatLandUse’ project is to quantify and evaluate ecosystem services in order to assist land-use planners and policymakers in making ecologically, economically and socio-culturally sustainable land-use decisions. This objective will be met by developing and demonstrating a decision-support system, where ecological and economic data is aggregated to numerically optimise cost-efficient land-use options so that benefits from ecosystem services are safeguarded. The system will be tested and demonstrated to optimise the reuse of low-productive drained peatlands, which is the key issue concerning peatland use in Finland. The decision-support system provides an innovative, quantitative approach to increase the sustainability of peatland and reduce conflicts concerning its use, and it is applicable to any land-use planning, where ecological, economic and socio-cultural values may be in trade-off.

The specific objectives of the project are:

- The development and demonstration of a decision-support system to quantify and value ecosystem services and ecologically, economically and socio-culturally optimise sustainable land use;
- To consolidate and increase the knowledge base on the impacts of peatland use on ecosystem services through the compilation of multiple datasets and state-of-the-art modelling;
- To enhance general awareness, reduce conflicts, and promote stakeholder cooperation concerning the use of peatlands; and
- To promote the sharing and use of long-term monitoring data and scientific information in land-use planning.

Expected results: The project expects to achieve the following results:

- The creation of a new, innovative decision-support system that quantifies, values and predicts the state of selected ecosystem services and optimises their levels to fulfil requirements and constraints set at regional, national and EU levels;
- Increased knowledge concerning the impacts of peatland use on the biodiversity, environmental loading, GHG balance and monetary value of low-productive, drained peatlands;
- Increased awareness and understanding of the sustainable use of peatlands. A participatory decision-support tool will be tailored and tested by at least 20 stakeholders in a planning process. This tool will provide better opportunities for consensus among stakeholders; and
- Data from long-term monitoring, published sources and newly-established monitoring will be aggregated into a database that can be used to model, predict and optimise the impacts of sustainable peatland use.

Results

Top

Environmental issues addressed:

Themes

Land-use & Planning - Spatial planning

Keywords

land use planning, decision making support, wetland

Natura 2000 sites

Not applicable

Top

Beneficiaries:

Coordinator	The Finnish Forest Research Institute (Metla)
Type of organisation	Research institution
Description	The Finnish Forest Research Institute (Metla) is an independent, governmental research organisation, subordinate to the ministry of agriculture and forestry. Its focus is to promote ecologically, economically and socially sustainable management and use of forests. Metla conducts research on the ecology of forests, their different uses and on forestry.
Partners	Metsähallitus, Finland Finnish Environment Institute (SYKE), Finland University of Helsinki, Finland University of Oulu, Finland Vapo, Finland

Top

Administrative data:

Project reference	LIFE12 ENV/FI/000150
Duration	01-JUL-2013 to 30-JUN -2018
Total budget	2,863,405.00 €
EU contribution	1,431,702.00 €

Project location	Uusimaa(Finland Suomi) Varsinais-Suomi(Finland Suomi) Satakunta(Finland Suomi) Häme(Finland Suomi) Pirkanmaa(Finland Suomi) Päijät-Häme(Finland Suomi) Kymenlaakso(Finland Suomi) Etelä-Karjala(Finland Suomi) Etelä-Savo(Finland Suomi) Pohjois-Savo(Finland Suomi) Pohjois-Karjala(Finland Suomi) Kainuu(Finland Suomi) Keski-Suomi(Finland Suomi) Etelä-Pohjanmaa(Finland Suomi) Vaasan rannikkoseutu(Finland Suomi) Keski-Pohjanmaa(Finland Suomi) Pohjois-Pohjanmaa(Finland Suomi) Lappi(Finland Suomi) Ahvenanmaa/Åland(Finland Suomi) Baltic Sea Suomi (SF)(Finland Suomi)

Top

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Leaflet	Title: "LIFE PeatLandUse : Quantification and valuation of ecosystem services to optimize sustainable re-use for low-productive drained peatlands" (938 KB) Year: 2013 Editor: LUKE No of pages: 2
Project web site	Project's website

Top

Project description Environmental issues Beneficiaries Administrative data Read more