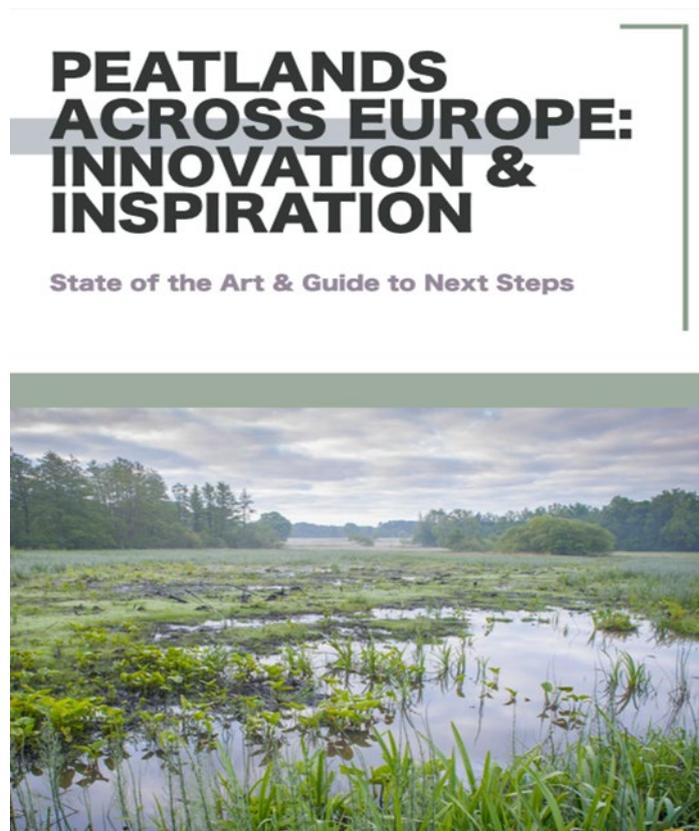


Carbon Connects Peatland Project updates 2021

1) Peatlands across Europe: Innovation and Inspiration

Peatlands are powerhouses of carbon storage, but drained and degraded peatlands are carbon emitters. The drained peatlands are directly responsible for increasing greenhouse gases (GHGs) such as carbon dioxide (CO₂) and methane (CH₄) into the atmosphere. As we enter into the United Nations Decade for Ecosystem Restoration (2021-2030), it is critical that drained peatlands are rewetted for increasing carbon sequestration, enhancing biodiversity, improving water quality and mitigating climate change. The Irish partners of the EU INTERREG Carbon Connects project i.e. the Development Unit of Limerick Institute of Technology (LIT) (Dr. Amey S. Tilak) provided vital inputs to the recently released booklet of “**Peatlands Across the Europe: Innovation and Inspiration**”. This released booklet authored by Bax & Company’s Amber De La Haye, Cisca Devereux and Sebastiaan van Herk, with contributions from Carbon Connects, Care-Peat, DESIRE, LIFE Peat Restore, and CANAPE, this booklet aims to pave the way for future action on peatlands. Essentially this document captures important recommendations, shares the cutting-edge experiences of peatland restoration, and identifies gaps, priorities and lessons from across Europe, important for peatland practitioners around the globe.

<https://www.decadeonrestoration.org/publications/peatlands-across-europe-innovation-and-inspiration>



2) Towards a Carbon Credit and Blue Credit Scheme for Peatlands

The aim of this document is to outline the preliminary requirements and steps needed for establishing frameworks for certification systems across Europe, specifically to support and incentivize the restoration of peatlands and to provide a framework for reducing GHG emissions from degraded and mismanaged peatlands on a large scale. This will ensure that peatlands across Europe fulfil their potential to become a net carbon sink by 2050, while optimizing ecosystem service provision in a way that is fully consistent with all the relevant European policies. This document is a result of joint collaboration of EU INTERREG Carbon Connects and Care-Peat Peatland projects. The Irish partners in TUS Development Unit (Dr. Amey S. Tilak) provided significant inputs to making of this paper by collaborating with other authors from Carbon Connects and Care-Peat projects. The full report is available on https://www.nweurope.eu/media/16178/carbon-credit-and-blue-credit_whitepaper.pdf.

This report covers the following topics:

- Analysis of current Carbon Credit systems and other incentives to support wet peatlands.
- Economic land use analysis relating to peatlands.
- Outline of a framework to support rewetting and peatland restoration.
- Recommendations for an Eco-Credit system across Europe.

TOWARDS A CARBON CREDIT & BLUE CREDIT SCHEME FOR PEATLANDS

WHITE PAPER



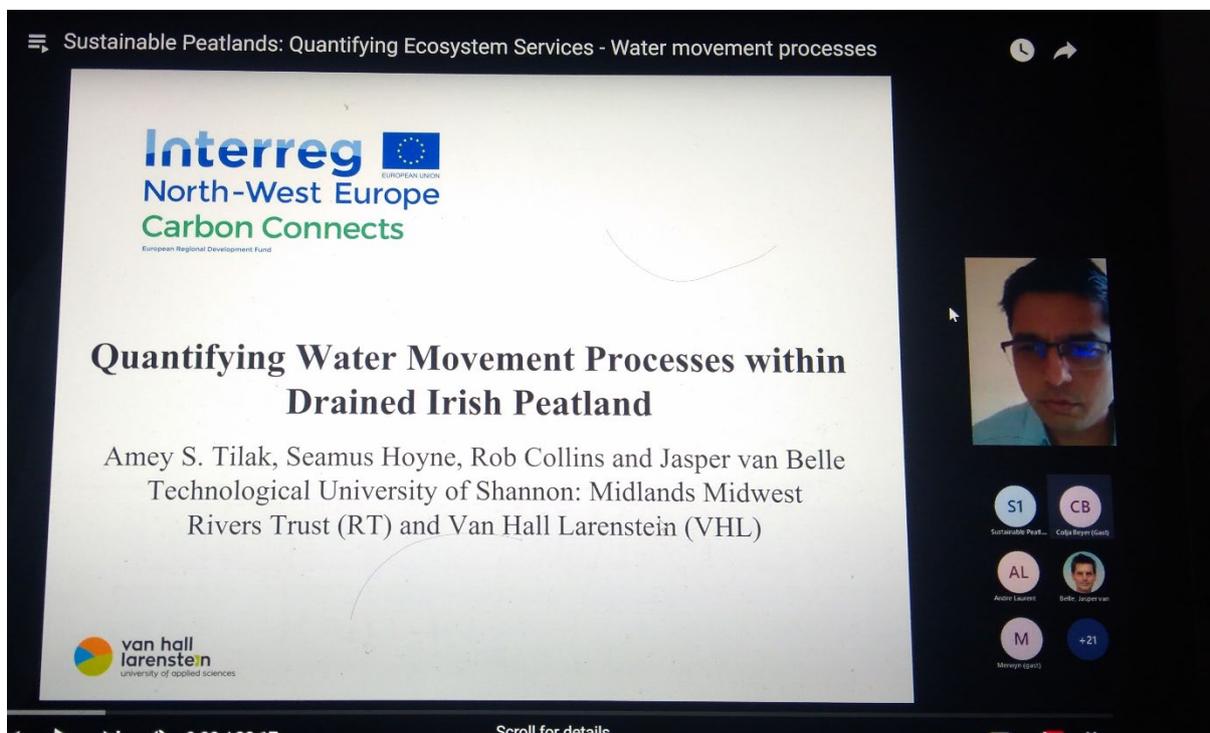
PHOTO BY CHRISTOF VAN ACKERE, NATUURPUNT (INTERREG CARE-PEAT)

Authors: Carbon Connects
Valentina Sechi, Jasper van Belle, Christian Fritz, Amey Tilak, Jeroen Geurts, Nina Roehrig, Peter Nailon, Kate Cartmell-Done, Weier Liu, Toine Smits, Maarten De Boever

Authors: Care Peat
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3) International Peatland Conference organized by CConnects and Canape Projects.

The EU INTERREG Carbon Connects peatland and Canape peatland projects hosted an international conference in Leeuwarden, Netherlands in October 2021. The conference “Sustainable Peatlands: Win for all: Peatland restoration and sustainable future”. The conference was open to all and hosted online as well as in-person. The goal of the conference was disseminating innovative peatland restoration techniques, business models and policy options developed by Carbon Connects and Canape projects over the last 4 years. More details about the conference programs, events, and recorded online sessions found on <https://www.vhluniversity.com/welcome/events/sustainable-peatlands> and <https://www.youtube.com/playlist?list=PLw-iUOfAUZgT1a5Vj1JjP02g27KmeO5Tg>. The TUS DU unit i.e. Dr. Amey S. Tilak presented in this international conference and discussed on “Quantifying Water Movement Processes within Drained Irish Peatlands”. The full 20-minute presentation on YouTube <https://www.youtube.com/watch?v=Szw0BV6y7YA&list=PLw-iUOfAUZgT1a5Vj1JjP02g27KmeO5Tg&index=11>.



4) Irish farmer-farmer videos

Two Irish farmers interviewed for seeking their valuable opinions on peatland restoration, business models that have the potential for providing financial incentives to Irish farmers etc. Please listen to the two Irish farmers on YouTube for more details.

Farmer 1 video 1: <https://youtu.be/UJ2jSdyYoAU>

Farmer 2 video 2: <https://youtu.be/ZiGFW3JJekM>

5) Webinar on “Sustainable Farming for Peatlands” on December 14 and 20, 2021.

"Sustainable farming for peatlands" is a European conference organised by the INTERREG NWE Carbon Connects project. The Carbon Connects aims to reduce the high carbon footprint of peatland soils in Northwest Europe by introducing new bio-based business models developed for sustainable land management practices. Peatland restoration is an important component of the world's journey to net-zero carbon emissions. The TUS DU unit in Dr. Amey S. Tilak presented a case study of “Rewetting of a Degraded Irish Peatland located in Oughterard, Galway” in this conference on December 14, 2021. [The full presentation on YouTube \(link provided by AC3A French partners\)](#). The two Irish farmer-farmer videos were also presented on December 14, 2021 online webinar.

This two-session webinar will focus on challenges to:

- 1) Restore degraded peatlands on December 14, 2021 and
- 2) Solutions for maintaining sustainable agriculture and financial incentives mechanisms and new bio-based business models on December 21, 2021.

This online conference was attended by 70+ farmers, landowners, researchers, advisors, stakeholders from Europe for discussing challenges and opportunities to support the restoration of peatlands. The full program <https://mailchi.mp/5e5f53e863cb/7g54wwbs24>.

The poster features a main title 'Sustainable farming for peatlands' in a large, bold, blue font. Below the title, two columns of text describe the sessions: '14th December 8pm - 9:30 pm CET Restored peatlands for sustainable agriculture' and '21st December 8pm - 9:30 pm CET Business models of paludiculture'. Two images are shown: a landscape with geese on the left and a close-up of cattails on the right. The Interreg North-West Europe Carbon Connects logo is in the bottom right of the image area. Below the images, the text 'PROGRAMME OF THE WEBINAR' is centered. Three circular icons represent the participating countries: the Netherlands (red, white, blue), France (blue, white, red), and Germany (black, red, gold). Below each icon is a link to read the program in that language: 'Lees het programma', 'Lire le programme', and 'Das Programm lesen'. The program details are organized into two columns under 'SESSION 1' and 'SESSION 2'. Session 1 (Tuesday 14 December 2021, 8 pm - 9h 30 pm CET) includes topics on peat farmers' role in GHG reduction, bog restoration at Oughterard, and an Irish farmer testimonial. Session 2 (Tuesday 21 December 2021, 8 pm - 9h 30 pm CET) includes a welcome session on cattails, innovative bio-based business models, and a carbon toolbox.

Sustainable farming for peatlands

14th December
8pm - 9:30 pm CET
Restored peatlands for sustainable agriculture

21st December
8pm - 9:30 pm CET
Business models of paludiculture

#sustainablepeatlands
#peatlandmatters

Interreg North-West Europe Carbon Connects

PROGRAMME OF THE WEBINAR

[Lees het programma](#)

[Lire le programme](#)

[Das Programm lesen](#)

SESSION 1
TUESDAY 14 DECEMBER 2021
8 pm - 9h 30 pm (CET)
Restored peatlands for sustainable agriculture

Why peat farmers are vital for Greenhouse Gas reduction?
Jasper van BELLE / Van Hall Larenstein (NL)

Rewetting of a degraded bog at Oughterard
Amey TILAK, Technological University of the Shannon (IE)

Irish farmer testimony on "Restoration of peatlands"

SESSION 2
TUESDAY 21 DECEMBER 2021
8 pm - 9h 30 pm (CET)
Innovative Business Models of Paludiculture

Welcome - Farmer to Farmer session on cattail

Innovative bio-based business of models of paludiculture
Harry MACH, Broads Authority (UK)

The Carbon-toolbox
Julius MEYER, University of Marbourg (GE)

6) New Peatland Scientific Publication

The TUS DU authors (Dr. Amey S. Tilak and Mr. Seamus Hoyne) collaborated with researchers from University of Limerick (Dr. Ken Byrne), Centre for Ecology and hydrology, UK (Dr. Jonay Jovani-Sancho) and Trinity College (Dr. Matthew Saunders) and quantified the ecohydrological thresholds for sphagnum recolonization and regrowth on undrained, afforested and rewetted peatlands located in Republic of Ireland. The sphagnum mosses are the key peat forming species of Northern peatlands. This paper published in Ecohydrology journal on <https://onlinelibrary.wiley.com/doi/abs/10.1002/eco.2374>.

The screenshot shows the article page for "Quantifying moss moisture stresses in undrained, afforested and rewetted peatlands located in Republic of Ireland using laboratory measurements and computer modelling" in the journal Ecohydrology. The page includes the journal logo, the article title, authors (Amey S. Tilak, Kenneth A. Byrne, A. Jonay Jovani-Sancho, Matthew Saunders, Seamus Hoyne), and the abstract. The abstract describes the study's use of site-specific peat hydrophysical properties and the HYDRUS 1-D model to quantify moss moisture stresses. On the right, there is a "Recommended" section with three related articles: "Initiation of microtopography in revegetated cutover peatlands: evolution of plant species composition", "Initiation of microtopography in revegetated cutover peatlands", and "Moss and peat hydraulic properties are optimized to maximize peatland water use efficiency".

Ecohydrology

RESEARCH ARTICLE

Quantifying moss moisture stresses in undrained, afforested and rewetted peatlands located in Republic of Ireland using laboratory measurements and computer modelling

Amey S. Tilak ✉, Kenneth A. Byrne, A. Jonay Jovani-Sancho, Matthew Saunders, Seamus Hoyne

First published: 25 October 2021 | <https://doi.org/10.1002/eco.2374>

Read the full text >

PDF TOOLS SHARE

Abstract

This study utilized site-specific peat hydrophysical properties (inverse of air-entry pressure, α ; pore size distribution index, n ; saturated hydraulic conductivity, K_s ; and pore tortuosity, L) as inputs into the HYDRUS 1-D computer model for quantifying moss moisture stresses on Irish peatlands. The site-specific peat hydrophysical properties computed using pedotransfer functions obtained from laboratory measured bulk density (BD) and % organic matter (OM). The peat samples obtained from undrained sites (Scohoboy, Pollagoona and Lough Ghe), three afforested sites (S18, S28 and S44) and rewetted sites (Scohoboy and Pollagoona). The moss moisture stresses quantified using a known ecohydrological threshold of ~ 100 cm. The site-specific peat hydrophysical properties, four initial WTDs (3, 8, 20 and 30 cm) and two distinct precipitation regimes (single and consecutive 4 years having severely dry [SD], extremely dry [ED], near normal [NN], very wet [VW] and extremely wet [EW] periods) were inputs into HYDRUS 1-D model. The modelling results showed that none of the peatland sites ever reached ~ 100 cm threshold in single year simulations at all initial WTDs. However, in the consecutive 4-year simulations, Scohoboy, Pollagoona and Lough Ghe undrained, S28 afforested and

Ecohydrology Early View
Online Version of Record
before inclusion in an issue
e2374

Related Information

Recommended

[Initiation of microtopography in revegetated cutover peatlands: evolution of plant species composition](#)
R my Pouliot, Line Rochefort, Edgar Karofeld
Applied Vegetation Science

[Initiation of microtopography in revegetated cutover peatlands](#)
R my Pouliot, Line Rochefort, Edgar Karofeld
Applied Vegetation Science

[Moss and peat hydraulic properties are optimized to maximize peatland water use efficiency](#)
N. Kettridge, A. S. Tilak, K. J. Devito, R. M. Petrone, C. A. Mendoza, J. M. Waddington
Ecohydrology