Restoring peatlands for biodiversity conservation and for tackling climate change through LIFE – EU LIFE funding 2021-2027

LIFE programme and peatland restoration

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Current situation: The degradation and loss of peatlands across Europe is still ongoing …

www.iucn-uk-peatlandprogramme.org

due to

- negative effects of climate change
- drainage and water extraction;
- afforestation;
- conversion to agricultural or horticultural land and fertilisation;
- peat extraction;
- construction of building and infrastructures;
- tourism and uncontrolled recreation demands;
- other use as waste disposal areas or flooding for hydroelectric power dams, pond creation or water retention basins.

LIFE Programme

Nature & Biodiversity

→ Conservation and restoration actions on peatlands within Natura 2000 protected areas network

→ Focus on habitats and species

Environment / Climate Action (mitigation and adaptation)

→ Wise & sustainable use of peatlands

→ Direct and indirect positive effects on the conservation of peat and peatlands in and outside of Natura 2000 network

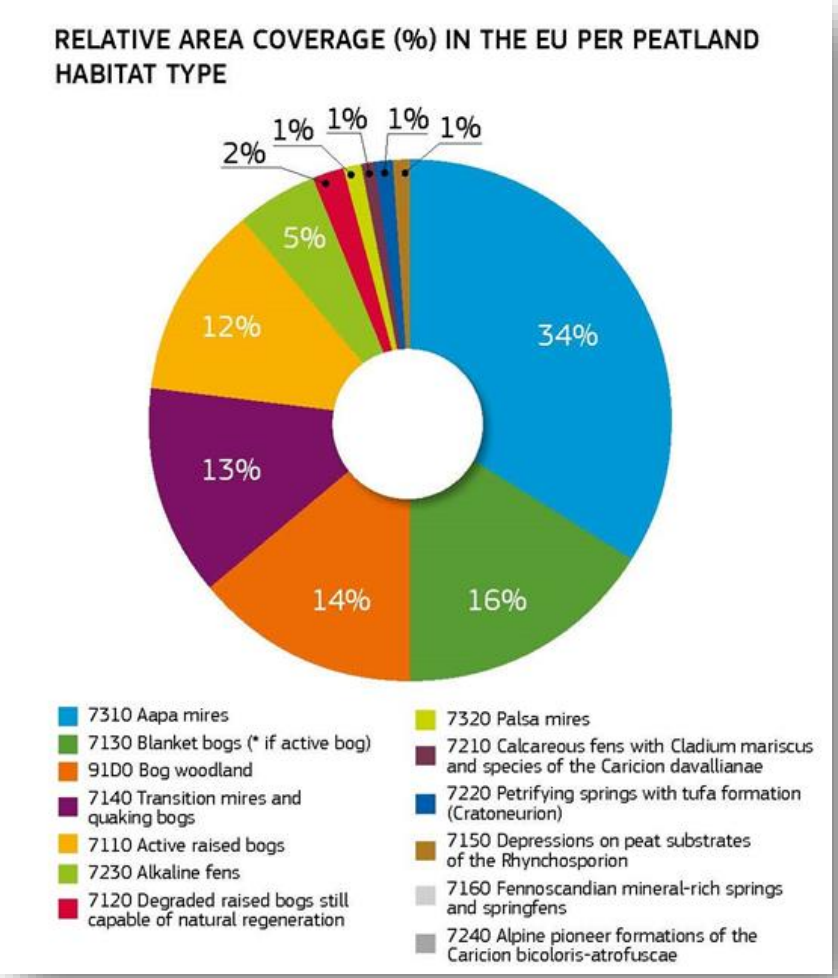
Nature & Biodiversity

The Habitats Directive distinguishes 12 mire habitats in three groups:

- Sphagnum acid bogs,
- Calcareous fens, and
- Boreal mires
- Also bog woodland (grouped under Forests), counts as a naturally forested peatland.

Some **33,000 km²** of these 13 habitat types are protected in more than **8,700 Natura 2000 sites.**

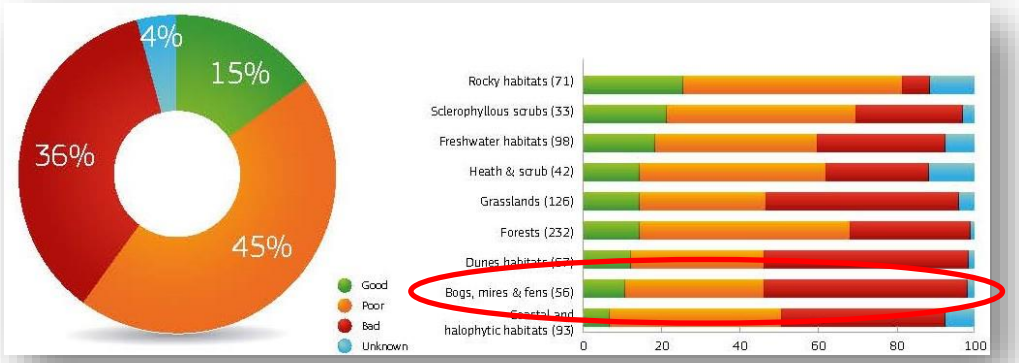
This area represents roughly **24% of all remaining natural peatlands within the EU**.



Nature & Biodiversity

EU State of Nature report 2020

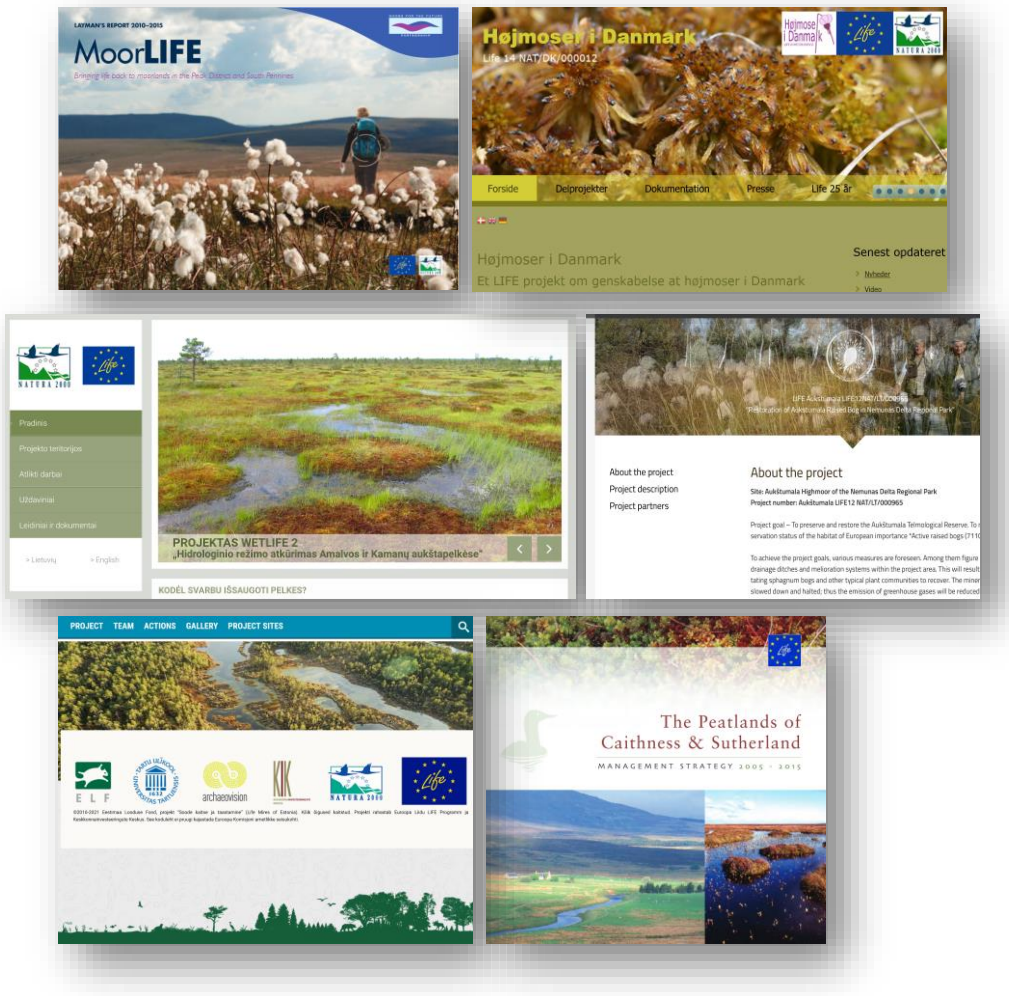
As for the 2013-2018 period, **only 10% of peatland habitats across the EU currently show a good status**. This concerns primarily peatlands in remote or inaccessible areas, not affected by human pressures, primarily in the Alpine, Boreal and Macaronesian (Azores) biogeographical regions. A further **36% of assessed habitats are in a poor status, and 52% are in a bad status**.



Nature & Biodiversity - How LIFE helps?

→ Between 1992 and 2018 the LIFE programme has funded ***363 LIFE projects to conserve and restore peatlands*** to some extent, targeting the 13 habitat types of raised bogs, mires, fens and bog woodland.

→ 28% of these projects focus primarily on peatlands, while others include peatland restoration along with associated habitats as part of a larger landscape approach.



Nature & Biodiversity - how LIFE helps?

Large-scale restoration of drained / degraded peatland habitats using best-practice

→ Rewetting by closing drainage systems and daming
→ Deforestation
→ Woodland removal
→ Combating invasive alien species
→ Re-establishment of mire species








Nature & Biodiversity - how LIFE helps?

Example <u>United Kingdom:</u>

A series of 24 LIFE projects focusing on the restoration of blanket bogs and raised bogs was carried out since 1992 and led to restoration and improvement of some 170,000 ha of degraded mires (= area representing c. 6.3% of the total peatland area and 17-22% of all peat-accumulating mires in the UK. E.g.

→ **LIFE Blanket bog** (LIFE00 NAT/UK/007075) revitalised 16,600 ha of blanket bogs in North Scotland with a significant regional impact.
→ **MoorLIFE** (LIFE08 NAT/UK/000202) restored a total of 893 ha of damaged bog and has protected 2,500 ha of active blanket bog from becoming eroded.
→ **MoorLIFE2020** (LIFE14 NAT/UK/000070) with 9,500 ha blanket bogs targeted for restoration.

Nature & Biodiversity - how LIFE helps?

Example <u>Belgium:</u>

Between 2003 and 2019 six successful LIFE projects were carried out in the Ardennes midlands: **Saint Hubert** (LIFE03 NAT/B/000019), **PLTTAILLES** (LIFE05 NAT/B/000089), **Cx SCAILLE** (LIFE05 NAT/B/000087), **PLTHautes-Fagnes** (LIFE06 NAT/B/000091), **Lomme** (LIFE08 NAT/B/000033), and Ardenne liégeoise (LIFE10 NAT/BE/000706).

→ More than **80% of peatlands in Wallonia and about 40% of all peatlands nationally were improved**

→ an extensive area of more than **2,500 ha of peatlands** with improved peat soil hydrology and completed restoration measures was revitalised, corresponding approximately to the total area of *Degraded raised bogs still capable of natural regeneration* (7120) in Continental Belgium.

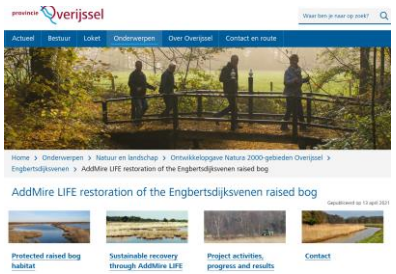
Nature & Biodiversity - how LIFE helps?

Newest projects LIFE Nature & Biodiversity

→ **LIFE Avaloirs** (LIFE17 NAT/FR/000007)
Restoration of heathlands and bogs on Avaloirs hills and its associated wildlife

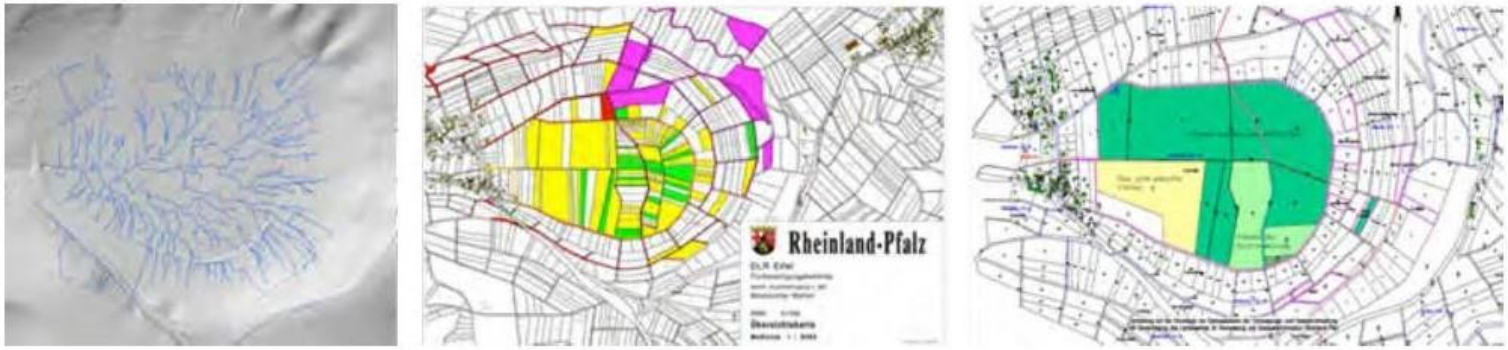
→ **LIFE for MIRES (**LIFE17 NAT/CZ/000452)
Trans-boundary restoration of mires for biodiversity and landscape hydrology in Sumava and Bavarian Forest

→ **AddMire LIFE** (LIFE18 NAT/NL/000636)
Improvement of hydrological conditions for naturally regenerating raised bogs in Engbertsdijksvenen

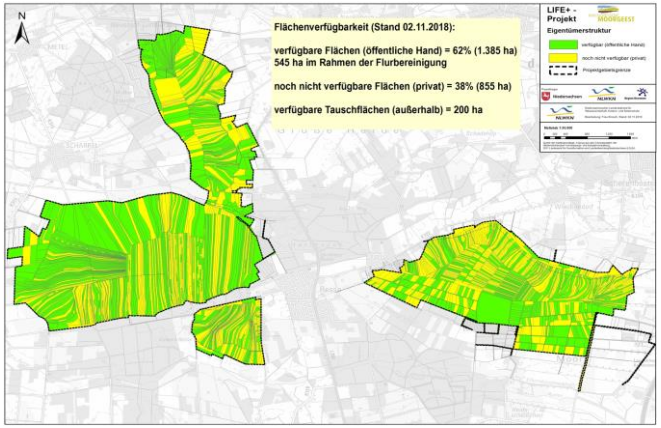


Nature & Biodiversity

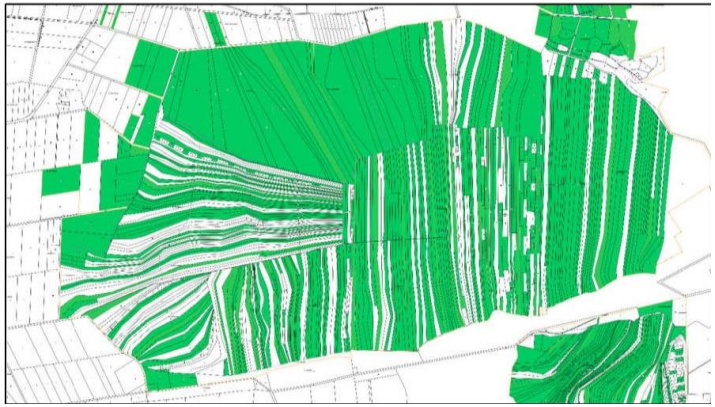
LIFE makes it possible**: land purchase and land consolidation**



(Left) Hydrology of the depression; (Middle) Fragmented private land ownership before LIFE (purchased parcels in yellow); (Right) Consolidated land in public ownership allowing total rewetting of the site.



2.4 Otternhagener Moor



Climate Change Mitigation and Adaptation

- → The **total amount of CO_2 emissions from degraded peat in Europe is around 383 million tonnes/yr** (of which 240 million tonnes/yr comes from peatlands drained for agriculture).
- → Emissions from drained peatlands generally increase with more intensive land use, deeper drainage depth and warmer climate.

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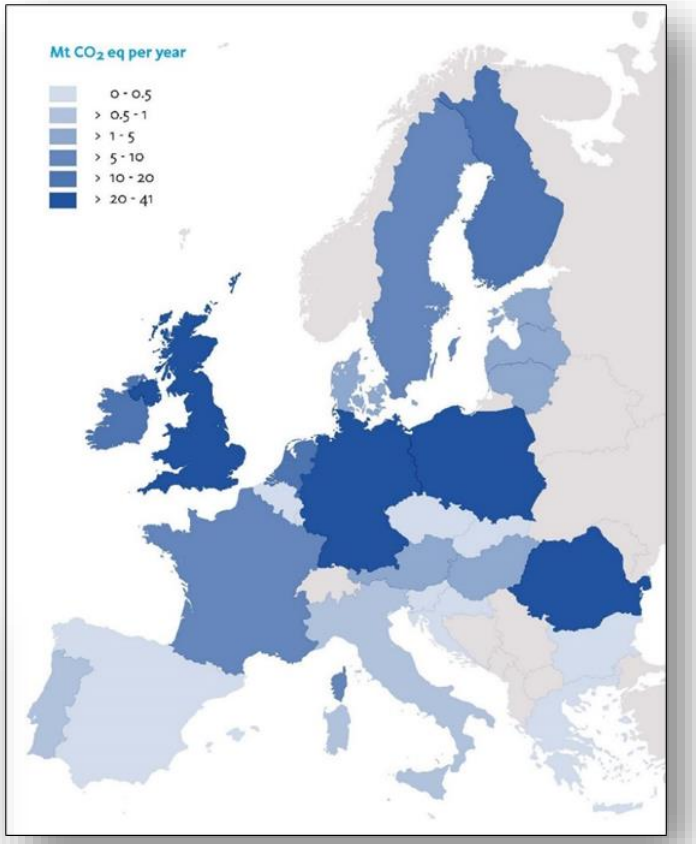

GHG emissions from agriculturally used organic soils in the European Union member states (source: Global Peatland Database (Greifswald Mire Centre 2018).

Climate Change Mitigation and Adaptation – how LIFE helps?

Suitable measures have been tested and applied by the LIFE programme.

→ Rewetting, paludiculture and wet / Carbon farming

→ Reduction of peat mining

→ Restoration and sustainable use of areas after peat exploitation

Climate Change Mitigation and Adaptation – how LIFE helps?

peat restore

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Climate Change Mitigation and Adaptation – how LIFE helps?

→ **LIFE REstore** (LIFE14 CCM/LV/001103)
- Sustainable and responsible management and re-use of degraded peatlands in Latvia

→ **LIFE Peat Restore** (LIFE15 CCM/DE/000138)
- Reduction of CO2 emissions by restoring degraded peatlands in Northern European Lowland

→ **LIFE OrgBalt** (LIFE18 CCM/LV/001158)
- Demonstration of climate change mitigation potential of nutrients rich organic soils in Baltic States and Finland

→ **LIFE IP Peatlands and People** (LIFE19 IPC/IE/000007)
- Peatlands and People - Irelands Climate Action Catalyst

LIFE, peatlands and innovation

→ **Development of alternative substrates**

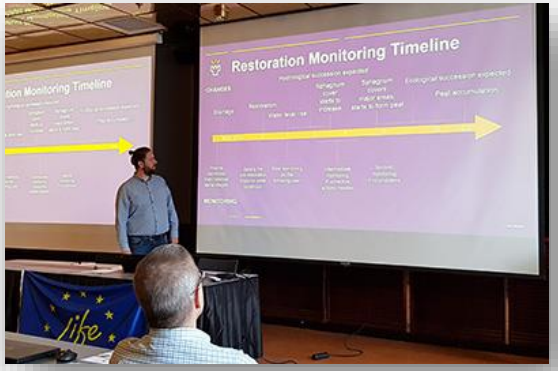
LIFE HORTISED (LIFE14 ENV/IT/000113)
Demonstration of the suitability of dredged remediated sediments for safe and sustainable horticulture production

LIFE AGRISED (LIFE17 ENV/IT/000269)
Use of dredged sediments for creating innovative growing media and technosols for plant nursery and soil rehabilitation

LIFE, public relations and promoting peatland actions







LIFE, peatlands and innovation

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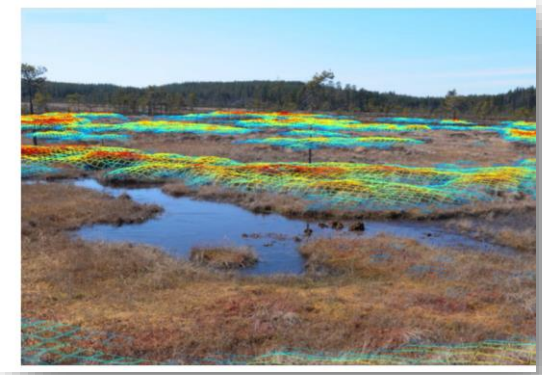
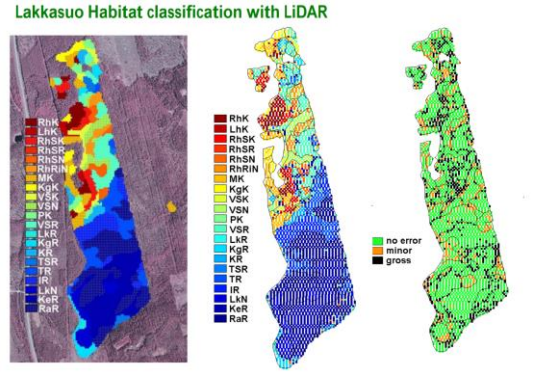
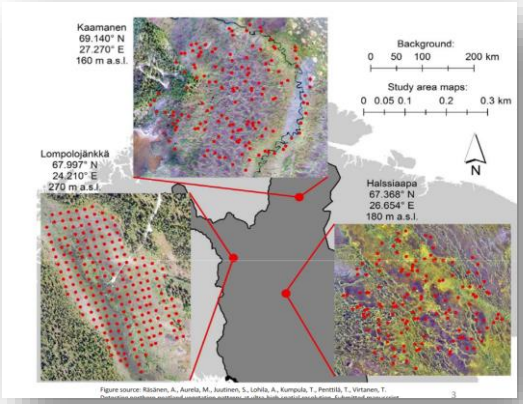
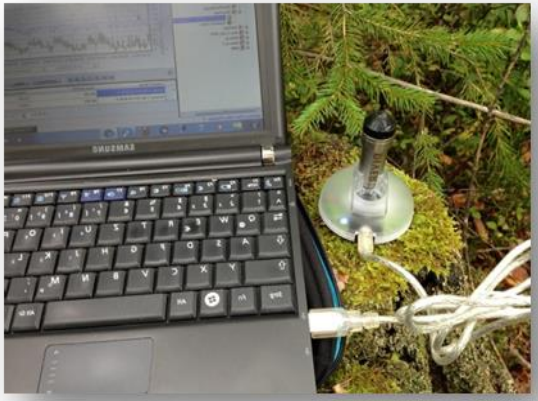
LIFE, peatland surveys and research









LIFE, peatlands & its beneficiaries

Applicants and beneficiaries:

All legal persons registered in the European Union

→ state and private companies
→ authorities and public administrations
→ NGOs
→ universities and institutes
→ …

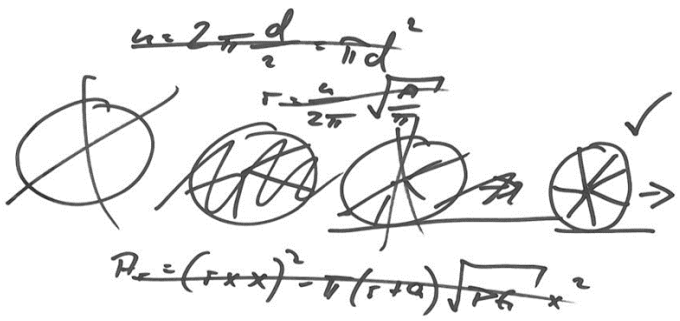
The more relevant stakeholders are involved, the better project results are often achieved

Chance for peatlands! → **all key stakeholders are here**

LIFE, peatland surveys and research

<u>Consideration of the current state of the art in science and technology</u>

→ Shortcomings in the examination of information sources
→ "Reinventing the wheel"
→ Gathering data with limited validity or explanatory value
→ Little experience with publishing of results in suitable journals



LIFE is NOT focused on research (→ H2020)

but

<u>WIN – WIN in participation of research institutes in LIFE</u>

→ Involving highly motivated young researchers & students in implementing LIFE projects (BA, MSc or PhD)

→ Publishing of results in acknowledged peer-reviewed journals -> broad and efficient dissemination of results

→ Guarantee of high-quality of literature reviews, baseline surveys, monitoring and impact assessments

LIFE programme and peatlands… taking home:

- **Considering the increasing biodiversity loss and the substantial effects of climate change observed in recent years, it is of great importance to safeguard mires with effective management and active restoration. LIFE projects have delivered a substantial contribution so far.**

- **Especially series of successive LIFE projects show massive gains (such as the restoration of 170,000 ha mires in the UK and over 40% of Belgian peatlands).**

- **LIFE projects focusing on peatlands, peat and peat soils are of utmost importance for the achievement of EU Green Deal goals and targets.**

Acknowledgment

In this presentation photographs and figures of the following LIFE projects were gratefully used:

MoorLIFE (LIFE08 NAT/UK/000202)
Raised bogs in Denmark (LIFE14 NAT/DK/00001)
LIFE Aukstumala (LIFE12 NAT/LT/000965)
Blanket Bog (LIFE00 NAT/UK/007075)
LIFE Mires Estonia (LIFE14 NAT/EE/000126)
WETLIFE (LIFE07 NAT/LT/000530)
LIFE Hochwald (LIFE13 NAT/DE/000406)
CHIEMGAU (LIFE97 NAT/D/004224)
LIFEHautes-Fagnes (LIFE06 NAT/B/000091)
LIFE Avaloirs (LIFE17 NAT/FR/000007)
LIFE for MIRES (LIFE17 NAT/CZ/000452)
AddMire LIFE (LIFE18 NAT/NL/000636)
Hang- und Hochmoore (LIFE09 NAT/DE/000009)
Hannoversche Moorgeest (LIFE11 NAT/DE/000344)
Hydrology LIFE (LIFE16 NAT/FI/000583)
LIFE Peat Restore (LIFE15 CCM/DE/000138)
LIFE Restore (LIFE14 CCM/LV/001103)
LIFE OrgBalt (LIFE18 CCM/LV/001158)
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LIFE HORTISED (LIFE14 ENV/IT/000113)
LIFE AGRISED (LIFE17 ENV/IT/000269)
LIFE Welsh Raised Bogs (LIFE16 NAT/UK/000646)
Marches Mosses BogsLIFE (LIFE15 NAT/UK/000786)
LIFEMagniDucatusAcrola (LIFE15 NAT/LT/001024)
PROGRASS (LIFE07 ENV/D/000222)
LIFE UVOR (LIFE06 NAT/A/000124)
LIFE to alvars (LIFE13 NAT/EE/000082)

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