

Principles for Sustainable Paludiculture



Peatland Programme

UK Peatland Degradation

Drained lowland peatlands are now the largest source, per unit land area, of peatland greenhouse gas emissions (GHG) at 12 Mt CO₂ equivalent per year (Evans *et al.*, 2017, Mulholland *et al.*, 2020). Agriculture on lowland peatlands is the largest land use derived source of GHG emissions in the UK. As such, in the sixth carbon budget, the Committee on Climate Change (CCC) have called for 60% of lowland peatland in the UK to be rewetted and brought under sustainable management by 2050 to meet Net Zero (CCC, 2020).

Adaptive management: Wetter ways of farming

The IUCN UK Peatland Programme UK Peatland Strategy identified a common goal of 'shifting management of drained peatlands under intensive productive use to deliver wetter ways of farming'. This wet farming or 'paludiculture' is a term used to describe farming and agroforestry systems that are suitable or adapted to wetland habitats with the primary aim of reducing emissions. The UK Strategy highlights paludiculture as an opportunity to maintain farming livelihoods and generate new enterprises within UK agriculture to extend the useable life of lowland agricultural peatlands; to slow the loss of soil carbon and to support continued profitable agriculture.

Paludiculture is one of the tools to help deliver peatland objectives; it is not a panacea for peatland management and will not be applicable across all peatland. It represents a *potentially* more sustainable way of managing our agricultural peatlands. Within a peatland landscape, a synergy between agricultural and nature recovery goals, including mosaics of areas under different management, can provide an overall sustainable peatland approach.



We set out five principles which should be considered, in the UK context, for sustainable paludiculture:

| STRATEGIC | REWETTING | CATCHMENT | VALUE | NATURE |
|---|--|--|--|--|
| <p>Develop a planned approach to paludiculture activity appropriate to local circumstances.</p> <ul style="list-style-type: none">Landscape-scale application allows coexistence of varied paludiculture methods in a mosaic.Planning can support broad peatland conservation and restoration goals with different levels of intervention and intensity alongside conventional agriculture. | <p>Prioritise rewetting that halts peat degradation through appropriate, stable water level management</p> <ul style="list-style-type: none">Stable water table 10-30cm below surface yields optimal emissions benefits, avoiding generation of methane.Each 10cm rise decreases emissions significantly.Partial rewetting (below a level that is capable of halting peat loss), cannot be considered sustainable; it can delay peat loss but prevents opportunity for future peat formation. | <p>Engagement at catchment scale for the potential benefits of paludiculture to be fully realised</p> <ul style="list-style-type: none">Reimagine water management, departing from historical drainage practices.Unify water level management, ensuring consistent supply and shared benefits.Secure economic support from private and government sectors for a common vision among stakeholders. | <p>Recognise the full range of public benefits in economic assessment and support for paludiculture</p> <ul style="list-style-type: none">Blend of new land management and revived traditional practices.Scalability relies on economic viability.Build a strong market/supply chain, shifting support from unsustainable farming on peat.Secure funding for paludiculture's environmental benefits. | <p>Plan and manage paludiculture with regard to biodiversity objectives</p> <ul style="list-style-type: none">Enhance biodiversity and address peatland habitat losses alongside economic considerations.Prioritise biodiversity preservation and explore habitat restoration.Protect remnant habitat as species refuges, avoid disruptions to breeding birds and important peatland species during management. |

RECOMMENDATIONS

1. Research to understand and maximise co-benefits
2. Funding support to help transition to paludiculture and promote the long-term health of peatland habitats
3. Research to inform and design new hydrological management systems



Scan the QR Code for further information, and to see our full briefing on 'Principles for Sustainable Peatland Paludiculture'

References

[1] Evans, C., Artz, R., Moxley, J., Smyth, M-A., Taylor, E., Archer, N., Burden, A., Williamson, J., Donnelly, D., Thomson, A., Buys, G., Malcolm, H., Wilson, D., Renou-Wilson, F., Potts, J. (2017) *Implementation of an emission inventory for UK peatlands*. Report to the Department for Business, Energy and Industrial Strategy. Bangor: Centre for Ecology and Hydrology. [2] Mulholland, B., Abdel-Aziz, I., Lindsay R., McNamara, N., Keith, A., Page, S., Clough, J., Freeman, B., Evans, C., (2020) *An assessment of the potential for paludiculture in England and Wales. Report to Defra for Project SP1218*, 98 pp. [3] Committee on Climate Change (CCC) (2020) *The 6th Carbon Budget – the UK's Path to Net Zero*. Report to the UK Parliament.