Excursion 1

Implementation of *Typha* & Wet Meadow Paludiculture – Barriers and Enablers in Governance and Policy

Guides

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Realised within the projects Paludi-PROGRESS, ALFAwetlands & MOOReturn

Excursion Programme

Time	Programme
08:00	Departure from Greifswald Bahnhofstraße/ Karl-Marx-Platz
09:30	Arrival at Bahnhof Lelkendorf (Neukalen) & Visit of *Typha* paludiculture site (stop 1)
11:30	Drive to & visit of fen meadows near Lake Kummerow (stop 2)
12:30	Drive to Moorbauer
13:00	Moorbauer: Lunch (stop 3)
14:00	Discussion round: Insights into some local observations on rewetting peatlands & exchange on barriers and enablers in governance and policy
16:00	Return to Greifswald
17:30	Arrival in Greifswald

Please note: Participants must be fit/ able to walk 5 km/120 min – Please wear comfortable boots for walking.

Public Field Day at *Typha* site, September 2023

Typha Harvest, January 2023

General Information on the Region

The Peene Valley is located in north-eastern Germany, right in the centre of the federal state Mecklenburg Western-Pomerania. This valley is quite unique as it contains one of the largest contiguous fen areas in Central Europe. The Peene River is characterised by a small gradient of less than 30 cm over a length of 100 km from Lake Kummerower See to the estuary in the Baltic Sea (Fig. 1). 15.000 ha of peatlands, more precisely fen complexes, are to be found in the upper part of the valley – the Upper Peene Valley (Fig. 2).

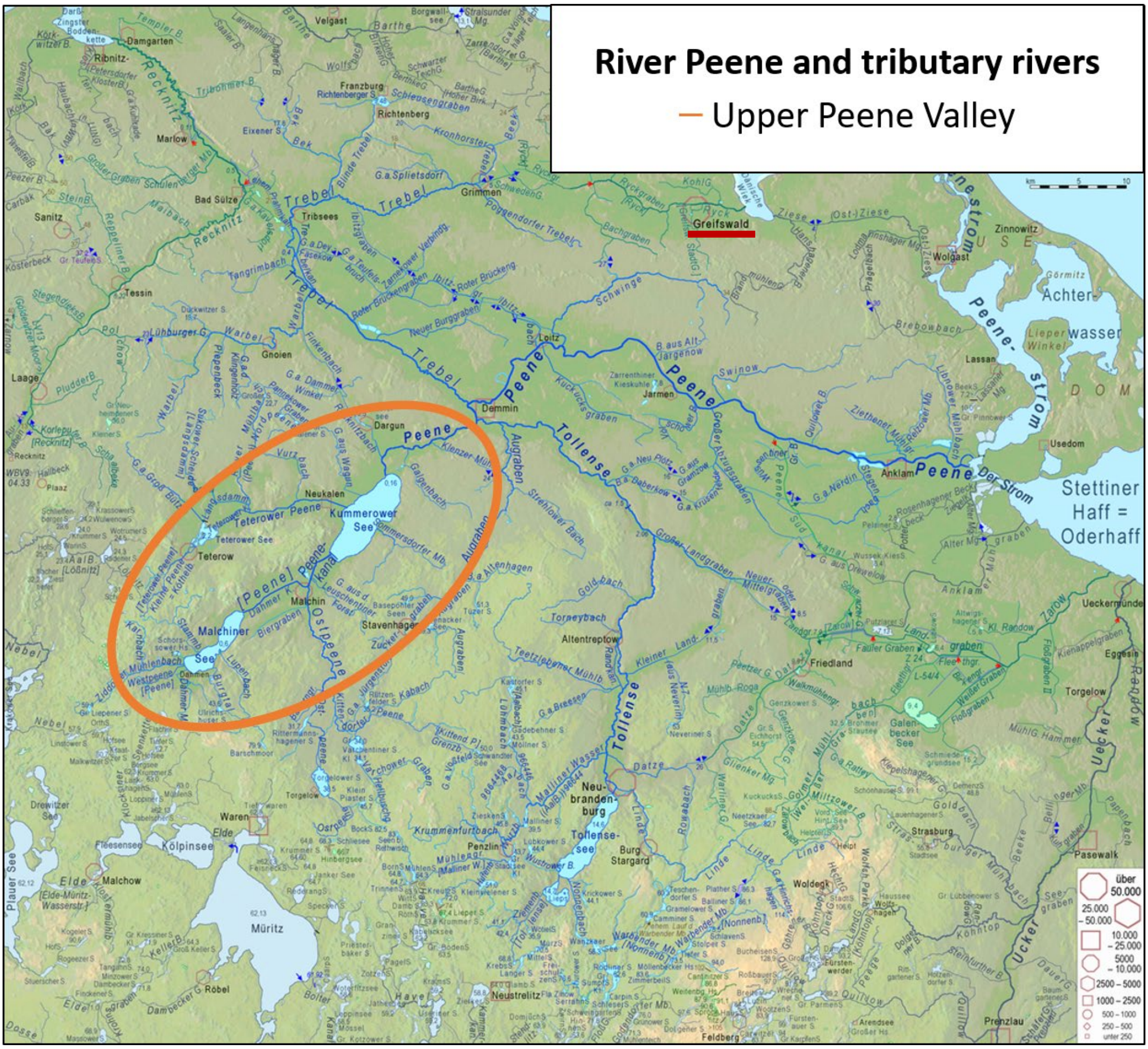


Figure 1: River Peene and its tributary rivers in the East of Mecklenburg - Western Pomerania. Orange circle: Upper Peene Valley. Base map: Kartenportal Umwelt Mecklenburg-Vorpommern.

With only 47 inhabitants per square kilometre, the district of Mecklenburgische Seenplatte is one of the most sparsely populated regions in Germany. Agriculture is a main source of income and shapes the landscape of the Upper Peene Valley – croplands, grassland and pastures are predominant. Spanning a total length of almost 1,500 km, a complex drainage system of closed and open waterways criss-crosses these agricultural areas. Also, several large polders can be found. Around two thirds of the total peatland area in the Upper Peene Valley is under agricultural use, hence drained. Drainage leads to soil degradation, subsidence and problems with land management, and therefore loss of agricultural land in the long-term.

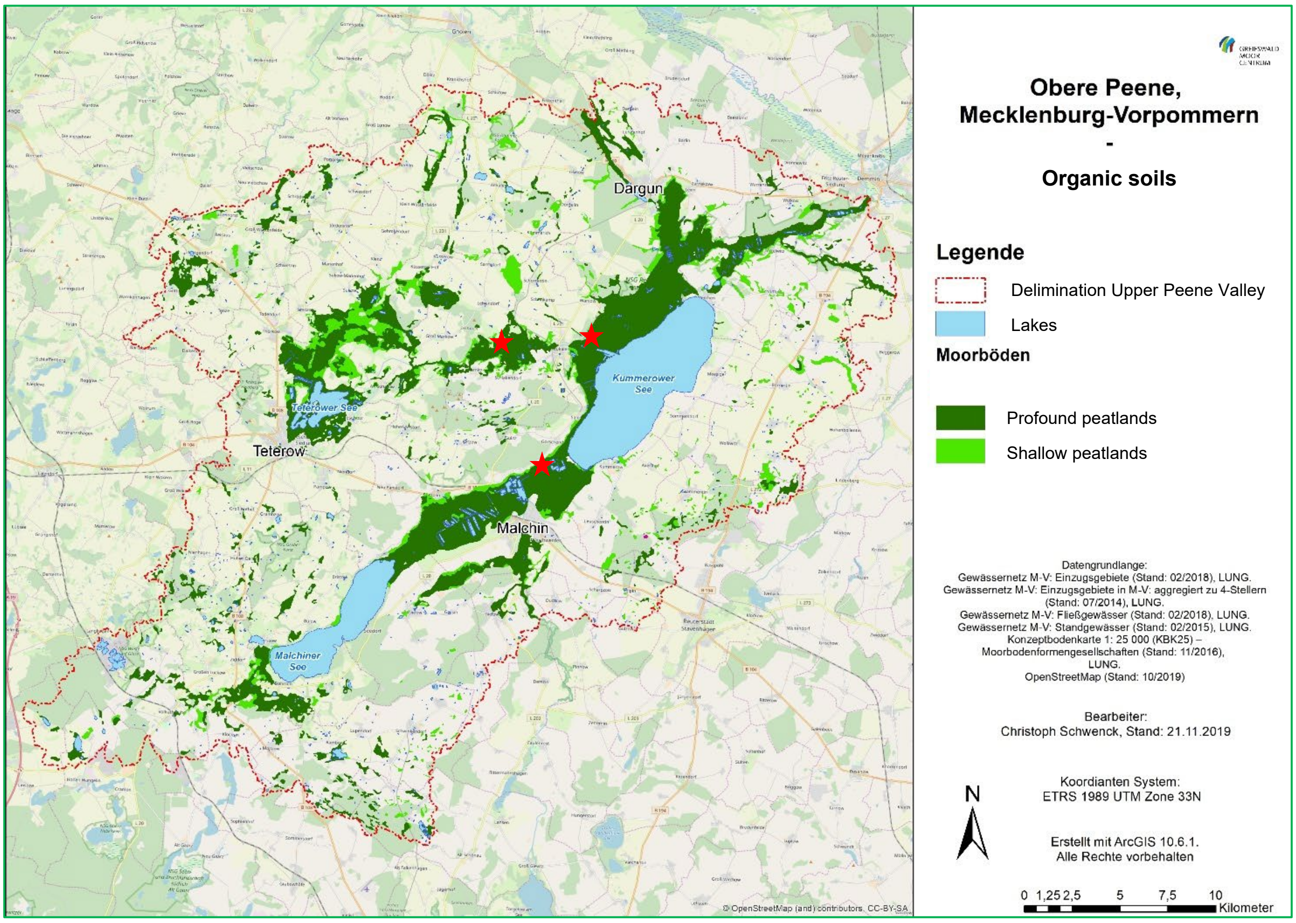


Figure 2: Peatland distribution in Upper Peene Valley, stars show locations of the excursion (map: Christoph Schwenck, GMC)

Policy and Governance – Current Main Challenges

This current form of drainage-based agricultural production counteracts the efforts undertaken towards climate change adaptation and mitigation. But the drainage-based use of peatlands is still being subsidised via the Common Agricultural Policy (CAP) payments which demonstrates a lack of coherence between agricultural and climate policy, one of the major hindering factors for progressing in peatland restoration and paludiculture implementation. Also, the legal framework in Germany is not compliant with peatland strategies and climate policy targets. So far, the agricultural legislative framework does not support the rewetting of peat soils and wrong incentives support the maintenance of drainage. At the same time, there are missing incentives for wet land use. For rewetting it needs costly and time intensive approval processes and often there are risks of difficult nature conservation requirements during those processes. All of this makes it challenging for land users to shift to a climate friendly, wet use (paludiculture). Unclear political and legally binding targets for peatland rewetting in Mecklenburg-Western Pomerania and Germany are further causing hesitation and uncertainty among farmers and landowners. In addition, it needs consensus with neighbouring land users or owners if their sites are hydrologically connected and could be affected by rewetting which often has the potential to stop projects. Besides those challenges in the field of policy and governance, there is also a need to establish new utilisation options and value chains for biomass from wet peatlands.

Some specific governance challenges affecting (not only) fen sites in Mecklenburg Western Pomerania, like the Upper Peene Valley, are:

- Agricultural subsidies for drainage-based use of peatland are higher than subsidies for wet use/raising water levels, which is contradictory (Common Agricultural Policy); minimum standards for peatland soils do not include any requirements for water levels (GLÖZ 2/GAEC 2).
- Renewable raw materials for products from paludiculture – such as reed for thatching, insulation boards or paper – are not listed in **Annex 1 of the AEUV**. The production of paludiculture crops for material and energy use is therefore not an agricultural activity and is not fully eligible for direct payments.
- Lack of eligibility for CAP payments for wet meadows/permanent grassland with dominant vegetation of the genera *Juncus* and *Carex* is a major obstacle for farmers discouraging them from converting to wet peatland use. (see national regulation in GAPDZV).
- High requirements under water and nature conservation law: Individual case assessments, rewetting (and in some cases also conversion to paludiculture) require costly and time-consuming approval procedures, and the necessary applications and documentation depend heavily on the regional authority responsible and the protection status of the area. Implementation projects involving the rewetting of larger areas often require complex planning approval procedures, including consultation procedures involving specialist authorities and the public; there are also concerns about nature conservation requirements after the establishment of paludiculture (cultivation or settlement of protected species, establishment of protected biotopes).
- Slow progress in making land available, partly due to lengthy land consolidation procedures.

How to overcome these hindering factors in governance and policy? How can we develop a land use that contributes to climate protection, develops the peatland as a habitat and also offers economic prospects for the region? These questions shall be discussed during the excursion with the RRR participants group as well as additional decision-makers from regional, state and EU level.

In the past 15 years, the Greifswald Mire Centre and various local partners engaged in peatland projects in the Upper Peene Valley. There have been and are different types of collaborations, between public institutions, but also mixed cooperation of public and private partners. Currently, three ongoing projects are engaged in research related to the Upper Peene region and are hosting this excursion: Paludi-PROGRESS, ALFAwetlands and MOOReturn.

Stop 1: Polder Teichweide (Bauernhand) – *Typha* paludiculture

Site Description

The pilot site is located in the river valley of the Teterower Peene and part of the polder 'Teichweide', also called 'Bauernhand'. The fen peatland has a peat layer of up to 5 m thickness and is drained for agriculture. The grassland vegetation of the polder Teichweide is grazed by suckler cows and mown for winter fodder production. The owner (farm Voigt) has made a section of the polder available for the *Typha* cultivation trial since 2019.

Site Establishment

In August and September 2019, construction work was carried out to prepare the area (~10 ha) for rising water levels. The measures included the construction of dykes/bunds to retain water, the excavation of a new ditch around the field to collect seepage water and thus prevent the surrounding grassland from becoming waterlogged. Finally, an irrigation infrastructure (pump + inlet) was constructed, and two adjustable outlets were installed to regulate the water level (Fig. 3).

A nursery specialised in aquatic plants has raised 25,000 seedlings each of *Typha latifolia* and *Typha angustifolia*. These were delivered in mid-September 2019 and planted using two tractor-drawn planting machines from the forestry industry. The two *Typha* species were each planted in two densities: 1 plant per m² and 0.5 plants per m² (planting scheme of 2m x 0.5 m and 2m x 1 m). In June 2020, pellets (*Typha* seeds + clay) were sown by hand and by drone on a shallow flooded area.

10 ha of Typha cultivation at a glance

Site Conditions & former land use	- Fen peatland (up to ~4-5 m of peat) - Former grassland (reed canary grass), grazed by suckler cows & mown for winter fodder
Site establishment	- Construction works in summer 2019 for rising water levels & construction of irrigation infrastructure (pump + inlet) - Planting of 50,000 seedlings by two tractor-drawn planting machines 09/2019, sowing of pellets (*Typha* seeds + clay) by hand and by drone 06/2020
Management	- Water level regulation: water retention and active irrigation in spring / summer using water from adjacent river Teterower Peene - Protection against geese & wild boars
Harvest	- Harvest of chopped biomass: machinery test in 2021; complete harvest 2023 & 2024; additional summer harvest test in 2023 - Seedhead harvest 2022, 2023, 2024, 2025
Monitoring	- Stand establishment, nutrient uptake, water balance, GHG emissions, biomass quality, cost data, quantification of ecosystem services (climate impact, water retention and nutrient uptake)

Lessons Learnt

- The *Typha* cultivation trial was set up as a "wet island in a drained environment": Costs of site preparation and water management were relatively high.
- Economies of scale and the selection of sites with free inflow significantly reduce costs.
- Late planting in September 2019 with low planting density initially led to low establishment of the *Typha* young plants, so that a significantly earlier planting date in summer is recommended.
- Stolon formation and additional germination in spring/summer 2020 nevertheless enabled good establishment. Seed production and sowing are being investigated as a promising, more cost-effective establishment method for cattail.
- There is a lack of locally available harvesting technology for wet peatlands, which means that contractors are hired on a supra-regional basis. As a result, harvest planning cannot react flexibly to uncertainties such as short-term changes of weather conditions. In addition, the long transportation routes result in higher shipping costs.
- The formation of fruit stands (seedheads) has a significant influence on the biomass quality and its suitability for various utilisation options.
- Influencing factors for fruiting is still unclear.
- Strong heterogeneity of *Typha* stand: Biomass productivity increased in all areas of site with remaining differences in density.

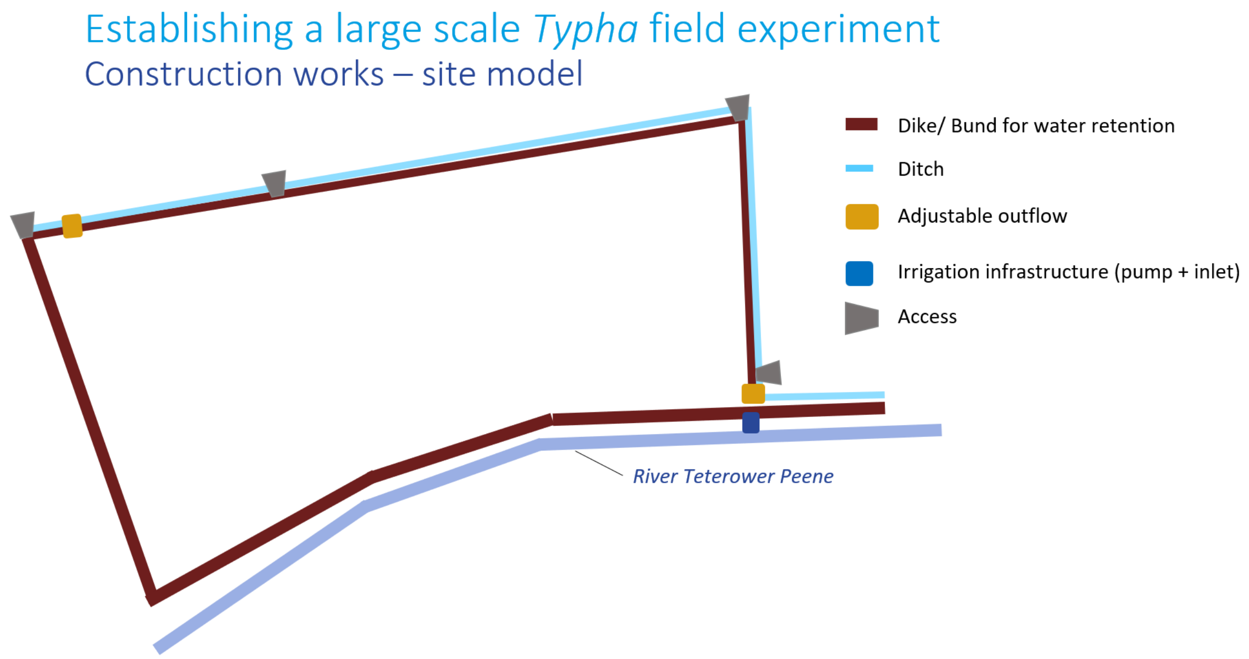


Figure 3: Typha site model

General Information on Cattail (*Typha*) Paludiculture

Narrow leaved cattail (*Typha angustifolia*), broad leaved cattail (*Typha latifolia*) and their hybrid (*Typha x glauca*) are highly productive perennial plants native to central Europe. They have vigorous, starchy rhizomes and stiffly emergent leaves that reach heights of 1.5-3 (-4) m. The leaves have aerenchyma (air-filled chambers).

Establishment can be through seedlings, rhizome cuttings, or by sowing. Establishment using seedlings results in reliable and fast stand establishment but has higher costs. Ideal germination conditions for seeding are water levels at or a few centimetres above ground level. Seeding in the months of May - June is recommended. Gaps can be filled with seedlings. Due to rapid vegetative growth, plant densities of less than two plants per square meter are sufficient. The number of shoots can increase by a factor of 30 within the first year.

Harvesting takes place from fall through winter. In the case of utilisation as fodder, for use in biogas plants, or with the aim of nutrient removal, earlier harvest dates are recommended.

Due to high water levels, harvesting requires the use of special equipment. Depending on the intended utilisation, only the seedhead, chopped material or the entire plant can be harvested. Technology from reed mowing can be adapted harvesting bundles of entire plants.

Due to the many air-filled chambers in the plant tissue, the leaf biomass offers the best conditions for use as insulation material, e.g., as blow-in insulation material or as insulating board. The fibres of the seedheads can be used as filling material for textiles. The use of *Typha* as a growing media constituent in horticulture has been successfully tested. Furthermore, there is the possibility of energy production (combustion, biogas, etc.). The calorific value of *Typha* biomass (as briquettes, pellets, or bales) averages 18.2 MJ per kg, and the ash content is 3.7 - 6.7%. In addition, *Typha* can be used to naturally filter water in constructed wetlands.

https://moorwissen.de/cattail.html

Policy & Governance Challenges for *Typha* Cultivation in the Polder Teichweide

Since 2019, the *Typha* site has been part of the Paludi-PRIMA project (2019-2022) funded by the BMLEH (Federal Ministry of Food and Agriculture). With the new CAP (Common Agricultural Policy) funding period, agricultural payments for this paludiculture area have theoretically been possible since 2023 via the first and second pillar of the CAP. In the federal state of Mecklenburg-Vorpommern (MV), two agri-environment-climate measures (AECM) related to peatland protection were introduced with the funding programmes '531 Moorschonende Stauhaltung' (fixed weir for water retention, variants: water level of 10 cm/30 cm below ground level) and '535 Anbau von Paludikulturen' (Cultivation of paludicultures, *Typha* and *Phragmites*). Participation would also maintain the eligibility of the pilot site for support under the first pillar (basic premium) in accordance with Section 11 (1) 3b GAPDZV.

As the tenant of the land, the Paludi-PROGRESS project (2023-2025) submitted applications for second pillar payments (combination of the two AECM mentioned above). The technical service provider's assessment of hydrological eligibility of the site was positive. However, the competent authority (StALU) rejected the application as well as the appeal lodged by the project. The argument was that due to the on-going project the measures were not voluntary and that there was double funding in view of the research project financed by the BMLEH. The proposal to include the area in the AECM subsidy, to suspend the premium payments for the duration of the project, but then to provide the payments (€900/ha per year when combining both AECMs) after the end of the project and the return of the area to the farm was also rejected. Since eligibility for support under the first pillar (basic premium) for a *Typha* site in MV is currently only possible if it is in an AECM, all agricultural payments for this paludiculture site are omitted.

Once the project ends (August 2025), the lease agreement will expire and the management of the *Typha* site will be the responsibility of the landowner. As the landowner, the farmer planned to continue the *Typha* paludiculture from the 2026 financial year (deadline for agricultural applications: 15 May 2026) and to register it for AECM water retention via the agricultural application. However, even though the relevant retention requirements are met and irrigation even ensures permanently high water levels, the Ministry of Agriculture of MV states that no new registration can be made in the current funding period as the funds have been exhausted.

The earliest opportunity for change is likely to come with the new CAP funding period starting in 2027. In the meantime, the question remains as to whether and how the farm can maintain the *Typha* site after the end of the project. If the area, which was regularly cultivated as fen grassland until 2019, is considered non-agricultural and ineligible for funding, the loss of value of the property might result in re-conversion.

Stop 2: Neukalener Seewiesen - Fen Meadows near Lake Kummerow

Site Description

The meadows seen in front of Lake Kummerow were intensively drained since 1925, but rewetted in 2002 by blocking ditches and stopping pumping. The vegetation is dominated by reed canary grass and sedges. Annual biomass productivity varies by 5 tonnes of dry matter. However, harvestability depends on weather conditions between June and September for hay.

As an alternative to the drainage-based utilisation of peatlands, the Voigt farm demonstrates the economically beneficial use of biomass produced from wet fen meadows in the Peene River valley. Peatland restoration measures impacted 400 hectares of land that the farm had used for cattle breeding. Changes in the water level affected the species composition of the sites, lowered the quality of the fodder and rendered the vegetation unsuitable for feeding cattle. Following years of planning and collaborative work with ongoing research projects at the University of Greifswald, the farm began harvesting biomass for direct combustion providing heat for 500 households, a school and a kindergarten. The farm now supplies raw materials for processing in the paper and packaging industries and beyond.

New processing avenues for wet grassland biomass are explored within the project MOOReturn. The model and demonstration project MOOReturn combines peatland revitalisation with economic value creation in the Malchin region. As an interdisciplinary research project implemented by nine partners from science, industry, and local government, it investigates innovative processing techniques for paludiculture biomass and its various uses. The focus is particularly on product paths for paper and packaging materials, fibre board and building materials, and chemical raw materials. The processing plant for peat biomass is being built on an industrial scale in the model region of Malchin. Processing is to be residue-free, which will also allow the production of fertilisers from by-products of the processing process to be investigated. In addition to ecological benefits through reduced greenhouse gas emissions and increased biodiversity, economic incentives for farmers will be created. The florafuel processing method used enables flexible processing of different types of biomasses, thus ensuring a resilient value chain. The project includes gradual rewetting of several hundred hectares of drained peatland along the Upper Peene River and aims to achieve emission savings and supply peatland biomass for the innovative processing techniques. It will also establish networks, facilitate dialogue processes and transfer knowledge.

Selected plant species at ‘Neukalener Seewiesen’:

Agrostis stolonifera, Alopecurus geniculatus, Cardamine pratensis, Carex acuta, Carex disticha, Carex acutiformis, Carex nigra, Carex riparia, Deschampsia, cespitosa, Eleocharis palustris, Filipendula ulmaria, Galium palustre, Glyceria fluitans, Glyceria maxima, Iris pseudacorus, Juncus effuses, Lychnis flos-cuculi, Lysimachia vulgaris, Mentha aquatica, Myosotis scorpioides scorpioides, Phalaris arundinacea, Persicaria amphibia, Plantago major, Poa trivialis, Potentilla anserina, Ranunculus repens, Symphytum officinale, Stellaria palustris, Thalictrum flavum.

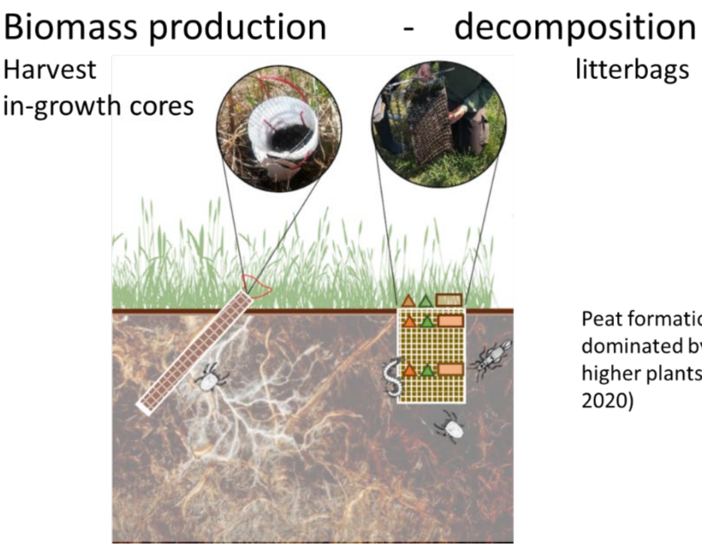
Paludiculture and peat formation potential in rewetted temperate fens

A question of interest is of paludiculture also allows for new peat formation on rewetted sites. In a recent BiodivERsA project (PRINCESS), we studied this for *Typha* and *Carex*-dominated sites across temperate Europe, including the Typha site visited at Stop 1 and the Carex-dominated sites seen from Stop 2. Sites were selected varying in land use (no use, low- and high-intensity paludiculture) and nutrient availability (low in *Carex*-dominated sites, high in *Typha*-dominated sites). Over two years, we measured belowground biomass production using root ingrowth cores and decomposition using litterbags, and calculated the peat formation potential as the z-standardized balance between these two processes.

Results: Paludiculture did not negatively affect peat formation potential in rewetted fens compared to non-used sites. Unexpectedly, belowground biomass production was higher in low-nutrient *Carex*-dominated sites than in high-nutrient *Typha*-dominated sites, while decomposition rates showed little difference across vegetation types and were lowest below moderate nutrient availability. Peat formation potential increased with a longer growing season, high water levels, and low nutrient availability.

Conclusions: The findings support the use of paludiculture on degraded, nutrient-rich fens to reduce nutrient loads and steering them to high peat formation potential, offering a sustainable solution for peatland restoration and agricultural land use.

Methods: Aboveground biomass production was assessed by clipping all plants of 1 m² before the respective study year and harvesting the central 0.5 m² of this subplot after one year, drying to constant weight and weighing. Belowground biomass was quantified by ingrowth cores and belowground decomposition was quantified by litterbags containing autochthonous belowground litter. The peat formation potential (PFP) was expressed as one-year biomass surplus, calculated as the balance between belowground biomass production and decomposition (annual belowground biomass production multiplied by the share of belowground litter mass remaining after one year of decomposition). We assume that this short-term surplus determines further processes leading to peat accumulation. Long-term measurements or paleoecological methods would be necessary to detect the absolute rate of peat formation (Bauer 2004), yet differences between treatments and settings in the short term are expected to be indicative for the peat formation potential in relative terms (Schwieger et al. 2021; Jaszczuk et al. 2024). To reflect this, we focus only on relative comparisons of the environmental drivers and therefore present a standardized PFP (z-transformed).



Peat formation in rewetted fens is dominated by root biomass of higher plants (Michaelis et al. 2020)

Table 1: Overview of the 15 study sites. Land use intensity: 'wild' = wet wilderness, 'low' = low-intensity paludiculture, and 'high'= high-intensity paludiculture. Soil temperature was measured at each studied depth level in every plot. EIV-N = Ellenberg Indicator Value for nutrient availability, presented as average over all occurring plant species weighed by their cover. EIV-N runs from 1 (low) to 9 (high). Bright green: Stop 2, dark green: Stop 1

Plot	Land use intensity	Vegetation	EIV-N	Mean spring soil temperature (°C)	Mean annual soil temperature (°C)	Mean summer water level (cm)	Mean annual water level (cm)	Mean winter water level (cm)	Country	Longitude E	Latitude N	Site name
NC0	Wild	*Carex*	4.27	11.3	10.7	-19.5	-8.0	-2.2	The Netherlands	6.66810600	53.02243000	Gasterensche Diep
NC1	Low	*Carex*	4.53	12.1	11.1	-10.1	1.3	6.8	The Netherlands	6.66923660	53.02089161	Gasterensche Diep
NT0	Wild	*Typha*	7.47	10.2	10.0	0.0	10.3	14.9	The Netherlands	6.66243400	53.02761000	Gasterensche Diep
NT1	Low	*Typha*	7.41	11.4	9.3	-1.1	8.9	13.3	The Netherlands	6.66237100	53.02757300	Gasterensche Diep
GC0	Wild	*Carex*	4.81	10.0	9.9	-15.8	2.1	28.3	Germany	12.81894500	53.80001597	Salem
GC1	Low	*Carex*	4.66	10.9	10.3	-24.4	-1.9	24.0	Germany	12.81848601	53.80354199	Salem
GC2	High	*Carex*	5.17	12.2	10.9	-22.8	3.4	31.3	Germany	12.81853999	53.80403099	Salem
GT0	Wild	*Typha*	7.42	10.5	9.7	-32.8	0.2	19.0	Germany	12.86078696	53.85688299	Aalbude
GT1a	Low	*Typha*	7.60	11.1	10.1	-33.1	-0.4	19.1	Germany	12.86066601	53.85679800	Aalbude
GT1b	Low	*Typha*	7.01	11.9	10.2	3.7	4.3	5.2	Germany	13.81030697	53.84277198	Kamp
GT2	High	*Typha*	4.97	NA	NA	22.1	20.1	21.8	Germany	12.75034298	53.82532303	Teichweide
PC0	Wild	*Carex*	3.79	8.4	7.6	-16.4	-6.9	-3.5	Poland	21.52888750	53.77391950	Mikołajki - south
PC1	Low	*Carex*	4.01	10.0	8.1	-9.3	-0.7	2.4	Poland	21.52874090	53.77429510	Mikołajki - south
PT0	Wild	*Typha*	6.21	9.9	8.5	6.4	18.0	24.6	Poland	21.65228350	53.81374020	Mikołajki - Urwitałt
PT1	low	*Typha*	5.63	11.0	8.6	6.4	18.0	24.6	Poland	21.65267340	53.81375560	Mikołajki - Urwitałt

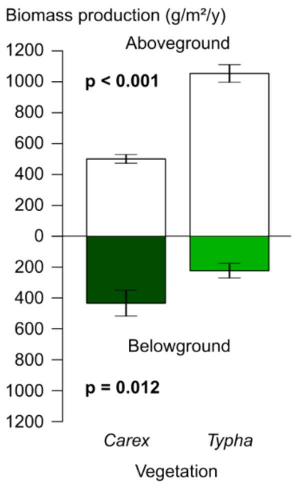


Figure 4: Above- and belowground biomass production based on dry weight per year for *Carex*- and *Typha*-dominated vegetation at 15 sites in The Netherlands, Germany, and Poland. Belowground production is displayed as the sum over 0-50 cm depth. Shown are mean values and standard errors of the mean and the significance of the fixed effect 'vegetation type' based on a linear mixed model with vegetation type, land use intensity and their interaction as fixed effects and region (NL, DE, PL) and study year (2 years) as random effects.

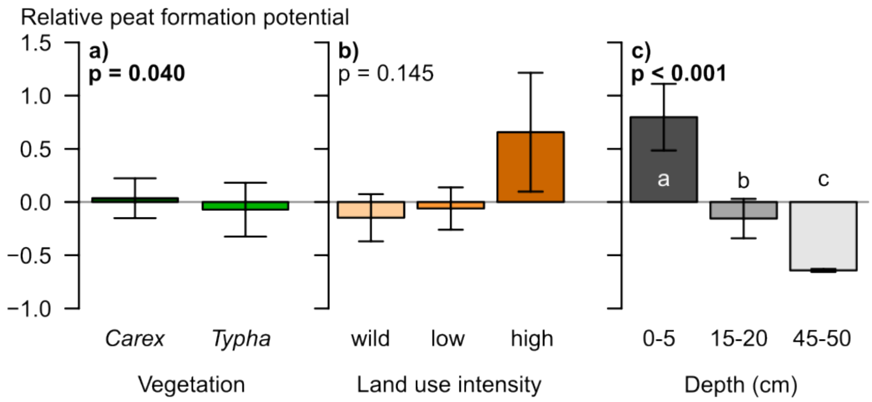


Figure 5: Relative peat formation potential, expressed as z-transformed product of annual belowground production and the share of belowground litter mass remaining after one year of exposition, at 15 sites in The Netherlands, Germany, and Poland as a function of the vegetation (a), land use intensity (b), soil depth (c). Displayed are all main effects and all significant interactions and the significance of the effects based on a linear mixed model with vegetation type, land use intensity, soil depth and all their interaction as fixed effects and region (NL, DE, PL) as random effects. Shown are mean values and standard errors of the mean.

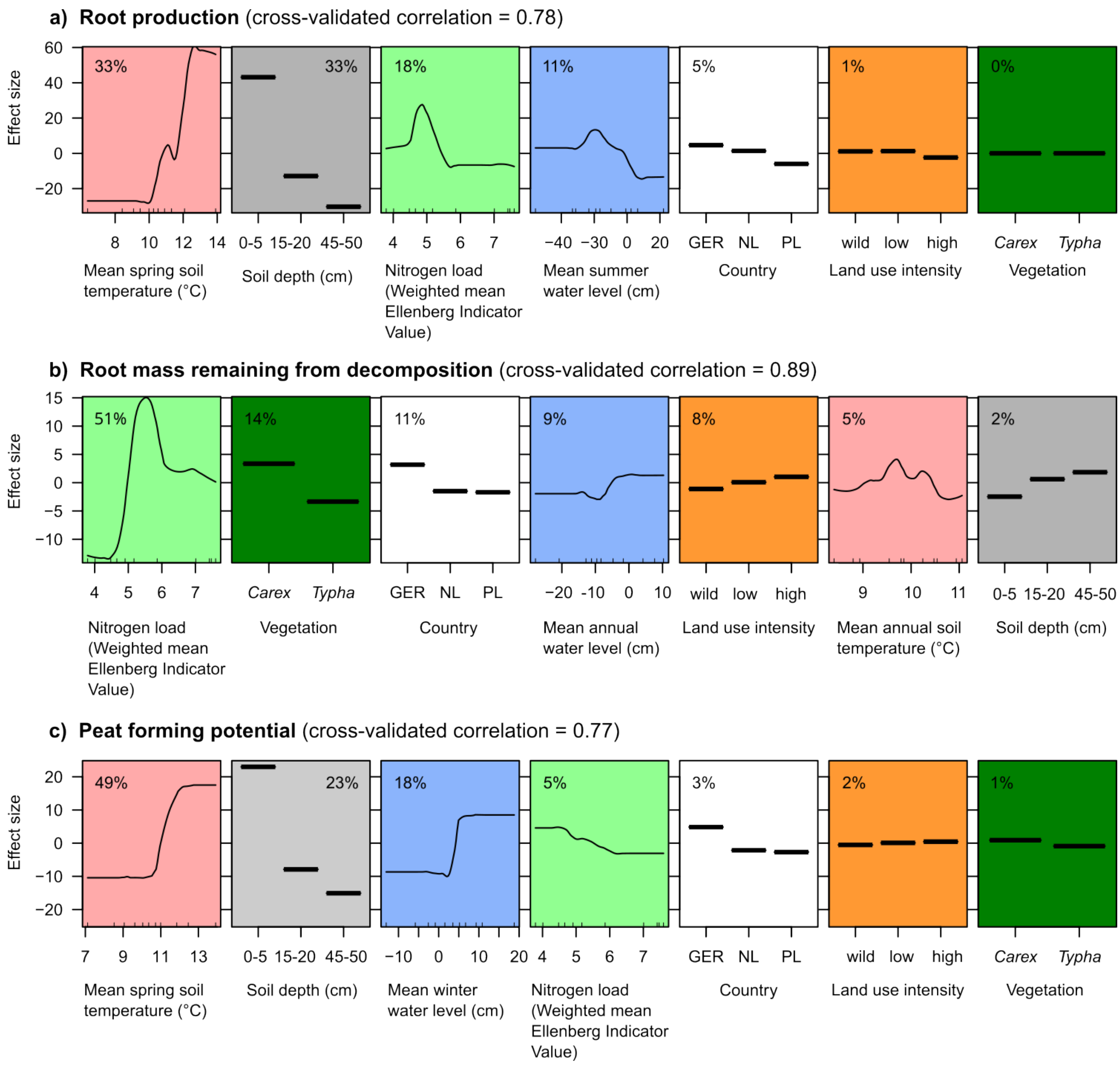


Figure 6: Partial plots of the Boosted Regression Tree (BRT) models for a) annual belowground biomass production observed by ingrowth cores, b) belowground litter mass remaining after one year of exposition in litterbags, and c) relative peat formation potential, expressed by multiplying belowground production by the share of belowground litter mass remaining at 15 sites in The Netherlands, Germany, and Poland, respectively. Percentages in the panels indicate the share of the respective variable in explained variance. Cross-validated correlations quantify the overall explanatory power of each model. Background colors are intended to assist the comparison between the three models. Note that for soil temperature (red) and water table depth (blue) different proxies including annual and seasonal means were first compared in univariate GAMs and only the best-explaining proxy was used in the BRT.

Reference:

Kreyling J, Zeterberg K, Aggenbach C, Kollmann J, Kotowski W, Kozub Ł, Laage K, Scheel P, Schmidt R, Seeber E, van Diggelen R, Zaborowska A, Tanneberger F (2025) Paludiculture maintains peat formation potential in rewetted temperate fens. Agronomy for Sustainable Development *in press*.

Stop 3: The Moorbauer

Site Description

Located in the fen landscape between Lake Malchin and Lake Kummerow, the Moorbauer is a small, historically rooted restaurant accessible only by pedal boat (Fig. 4). Situated directly on the banks of the River Peene and surrounded by reeds, it is a peaceful and inspiring place also for nature observation as well as meetings and workshops.

Originally a farmhouse after World War II, it became a local pub in the 1960s. After years of rest and renovation, the Moorbauer has reopened and now offers a place for locals and visitors to meet and exchange on landscape topics and to explore sustainable ways of living and working. By combining food, nature, and culture, the Moorbauer helps to raise awareness for protecting peatlands and to find new ways to live in harmony with nature.

Figure 7: The Moorbauer - View from the River Peene (Source: www.moorbauer.com)

The association "Wasserwerk der Zukunft e.V." (waterworks of the future), founded in 2021, pursues the goal of connecting the landscape actors of the region in order to jointly address the challenges of a more sustainable use of the "landscape resources" of the region. This shall create a new space for socio-ecological transformation and collaboration within the region. Founding members of the association are the Water Utility Malchin-Stavenhagen, the Water and Soil Board "Obere Peene", the municipal administration, the local farmers union and four schools of the region. The Greifswald Mire Centre has been a cooperation partner from the beginning.

Within the ALFAwetlands project, the concept of Living Labs – platforms for collaboration between different actors – is applied. In the Living Lab Upper Peene Valley the co-creative approach of social-ecological transformation, in other words, learning and developing solutions together with all those affected, is fostered. Bringing actors and stakeholders together within various formats to create trust and develop a common problem understanding and develop strategies, is one approach to tackle the challenges described above and to enhance peatland rewetting and paludiculture in the region. As part of the project, a three-part workshop series between 2023 and 2024 was held where scenarios for peatland sites and project ideas were developed, including all relevant stakeholders of the region (Fig. 5). An important and already proven workshop method, bringing people together to walk and talk, is the so-called "Landscape Walk".

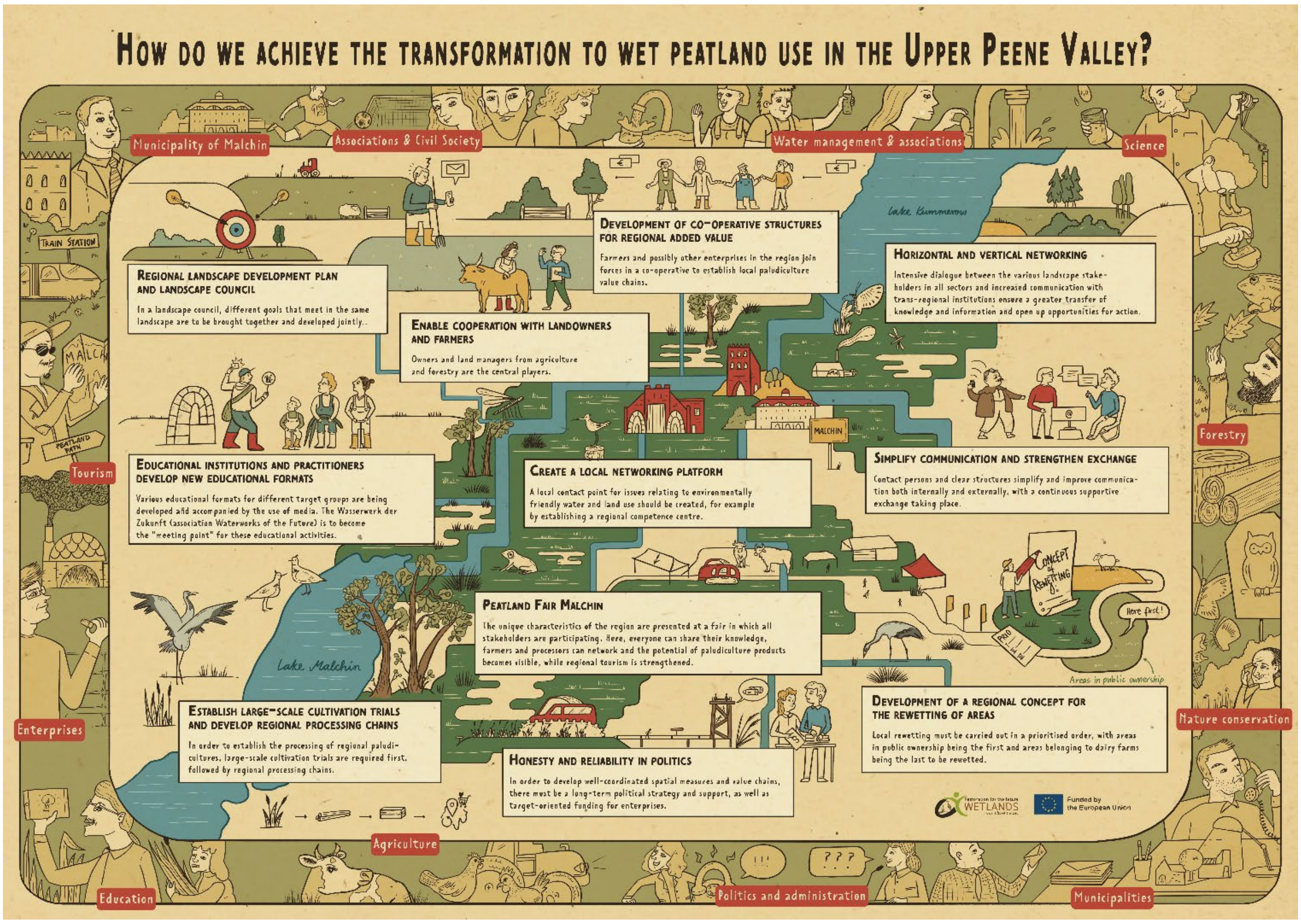


Figure 8: System Map developed during a workshop in November 2023. Outer circles shows stakeholder of the Upper Peene Valley – inner circles shows developed strategies on how to achieve the transformation to wet peatland use.