Peer Review Results | Partner meeting Bruges 2025

1. Introduction

Within the peer reviews used during the BUFFER+ partner meetings several different questions are asked. These peer reviews are meant to make sure the learning is easy and the same for everyone.

The organizing institutions for the partner meeting in Bruges, the Province of West-Flanders and the Flemish Land Agency, believe that it is good to bring together all the feedback given after the Bruges partner meeting in one document. By doing so, we as get a clear overview about the recommendations from our BUFFER+ partners.

2. Programme

2.1 Site Visit 1 - The Romboutswervepolder Pilot Site

Romboutswervepolder is a historic polder area of approximately 700 hectares, located in the northwest of the Province of West Flanders, within the municipalities of Bruges and Damme. It lies within the jurisdiction of the Oostkustpolder and is bordered by the Damse Vaart, the Schipdonk Canal, and the Koolkerksesteenweg. The area includes a mix of agricultural land and ecologically valuable green zones, and it also encompasses heritage sites such as the Fort van Beieren and parts of the historic city center of Damme. Today, the area faces several environmental challenges, including seasonal water shortages and surpluses, as well as peat oxidation.

The polder is particularly vulnerable to the effects of climate change, including prolonged droughts and water shortages. Water from the Damse Vaart is crucial for irrigation, but inflow is sometimes restricted due to toxic blue-green algae or low water levels. As a result, the region is focusing on retaining freshwater for as long as possible. Measures include reshaping riverbanks to allow controlled flooding of low-lying grasslands, installing adjustable weirs to manage groundwater levels, and enhancing biodiversity through nature-friendly banks. These efforts are part of a broader ambition to create a climate-resilient water system that balances agriculture, nature, and heritage conservation.

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2.2 Site Visit 2 - The Uitkerkse Polder Pilot Site

Uitkerkse Polder is a low-lying nature development area near the Belgian coast, situated across the municipalities of Blankenberge, De Haan and Zuienkerke. The landscape lies below sea level and features a distinctive microrelief, a subtle variation in elevation, shaped by peat and clay extraction that took place between the 16th and 18th centuries. These historical land uses left behind a patchwork of shallow depressions and elevated ridges, which today influence water flow, soil moisture, and vegetation patterns.

Now a designated bird protection zone, the polder supports extensive grasslands used by farmers and provides critical habitat for species such as the black-tailed godwit and lapwing. However, the area faces growing environmental pressures, including seasonal droughts, water scarcity, and habitat degradation. The legacy of peat extraction has made the soil more vulnerable to oxidation and subsidence, especially under dry conditions, further complicating water management.

2.3 Site Visit 3 – Meetkerkse Moeren

Meetkerkse Moeren is a low-lying peatland area in the Belgian coastal polder region, located between the municipalities of Brugge, Jabbeke, and Zuienkerke. The area lies below sea level and was originally a vast peat swamp. During the Middle Ages, it was extensively exploited for peat extraction, which transformed it into a large lake. By the early 19th century, the area was drained and converted into wet grasslands and meadows, though its high-water table limited intensive agriculture. In 2005, the Flemish Land Agency (VLM) launched a nature restoration project to rewet the area and restore its ecological value. The project aimed to reverse the effects of historical drainage and land conversion by raising water levels, reintroducing wetland habitats, and supporting biodiversity.

Measures included:

- Installing weirs to raise ditch water levels by 25 cm.
- Re-excavating old drainage channels to retain water rather than remove it.
- Creating nature-friendly banks planted with reeds to support wetland birds.
- Compensating farmers for income loss due to wetter soils and reduced productivity.

During the field visit, participants met with a local farmer who manages land under these high-water level conditions.

According to the local farmer and landowner, shifting from conventional to nature-friendly farming was initially challenging. Farming methods that had been in place since the 1980s had to be reevaluated, and there were concerns about how this change might be perceived within the local farming community.To support the transition, the state provided both financial incentives and tailored guidance through a series of one-on-one conversations. Officials encouraged a more flexible and sustainable approach to land use.

As part of the habitat restoration effort, the government purchased the farmer's land to create wetland areas. However, the farmer was allowed to continue using the land under a naturefriendly farming model. Seeking a breed suited to these new conditions, the farmer visited livestock markets in France and spoke directly with French farmers experienced in wetland-based beef production. These conversations were pivotal in identifying the Aubrac breed—renowned for its adaptability to challenging environments like wetlands (see Info Box 1: Aubrac Cattle).

Building on this transformation, the farmer's son launched a new business venture: a local butcher shop that supplies meat from their Aubrac herd to nearby restaurants and the community. Both father and son highlight the distinct flavour of Aubrac beef compared to the more common Belgian Blue, positioning it as a unique selling point for their family-run enterprise.

Site visit 4 – The Kwetshage Project

Kwetshage is a newly developed wetland area in West Flanders, Belgium, created as a nature compensation zone to offset ecological losses caused by the expansion of the Zeebrugge inner port and the construction of the A11 motorway. Spanning approximately 90 ha, the project is part of a broader initiative led by the Vlaamse Landmaatschappij (VLM) in collaboration with the Flemish government and the port authority. The primary goals of the Kwetshage project include:

- Raising Water Levels: A comprehensive rewetting strategy was implemented to transform historically dry grasslands into reed marshes. This was achieved without compromising the area's water buffering capacity, ensuring it can still function as a flood zone.
- Habitat Development: The project aims to create optimal habitats for critical marshland species such as the Eurasian Bittern (Botaurus stellaris) and Spotted Crake (Porzana porzana). The design includes a mix of open water, reed beds, and wet grasslands to support biodiversity and meet Natura 2000 conservation targets.
- Innovative Water Management: A wind-powered water mill (windwatermolen) and a newly constructed sluice regulate water levels, ensuring consistent moisture conditions for the reed marshes. This system also helps retain excess

rainwater during winter, allowing gradual infiltration into groundwater and supporting climate-resilient wetland development.

- Phased Implementation: The project was executed in two phases. The first phase, completed in 2023, developed two core marsh zones—Kreekrug and Kwetshagezwin—using earthworks and hydrological adjustments. The second phase, starting in 2024, will add 20 hectares of reed marsh and integrate previously restored areas.
- Land Reallocation and Restoration: To facilitate the transformation, the Flemish government acquired the entire project area. Former agricultural lands were reallocated and converted into nature zones through legal land reorganization and compensation mechanisms.

The Kwetshage nature compensation project encountered significant challenges related to invasive species and land acquisition. Invasive plants threatened the ecological balance of the restored wetland. To address this, the project employed a combination of early detection, mechanical and chemical control, and ecological restoration techniques, supported by continuous monitoring and adaptive management. Land acquisition posed its own difficulties, as the entire area needed to be owned by the government to proceed with the transformation. This process involved navigating complex legal frameworks, compensating former landowners, and managing tensions among stakeholders with differing views on the project's ecological and social value. In some cases, compulsory acquisition was necessary, which added further sensitivity to the process. Despite these obstacles, the project advanced through phased implementation, balancing ecological goals with legal and community considerations.

3. General recommendations regarding climate adaptation

Focus

In BUFFER+ partners aim to enhance climate change adaptation and mitigation in peatland areas in NWE regions and make peatlands function as carbon and water buffers.

Questions

- What are the main challenges in this region in relation to peatlands and climate change adaptation and mitigation?
- Are there policies in place to tackle these challenges?
- Which activities are implemented already to tackle these challenges?
- Who are the main stakeholders?

3.1 Main challenges

- In West-Flanders region, and specifically around Bruges, the main challenges include:
    - Degradation of peat soils due to historical and ongoing drainage for agriculture and urban development.
    - Loss of carbon storage capacity, as drained peatlands emit CO_2 and other greenhouse gases instead of acting as carbon sinks.
    - Water management issues, where altered hydrology leads to both local drought stress and flood risks, especially with increasing climate variability.
    - Biodiversity decline, as peatland ecosystems become fragmented and degraded.
    - Salinization, The area is located close to the sea and thus on the border between salt and fresh water. This impacts the peatlands and also has influence on the agricultural use.

- One major challenge is the development of narratives aimed at business stakeholders who may be in relational conflict due to basic environmental changes such as flooding, increased salinity, or other consequences expected over the next 50 years. It is important to make the case that commitment to climate adaptation is worthwhile by emphasizing the long-term economic feasibility for farmers and landowners involved in the agricultural management of restored land. This includes:

    1. Creating sustainable business models.
    2. Ensuring political and financial support. In addition, there should be a support mechanism in place to assist those businesses that ultimately cannot be realized.
    3. Considering demographic trends, including the emergence of a new generation of farmers.

- Another challenge is to convince non-agricultural entrepreneurs and investors of the economic benefits of rewetting and land restoration, beyond compliance with environmental tax regulations.
- It is essential to improve the prediction of environmental changes and their characteristics over the coming decades. This includes potential developments such as soil salinization, increased flooding, and shifts in predator populations.
- There must be adequate social and economic management and support systems in place for farmers who are leaving the profession and see no future prospects.

3.2 Existing policies and activities

- Several policies are in place at both the regional and national levels, including:
    - Climate Adaptation Plan, which recognizes the role of natural ecosystems, including peatlands, in climate resilience.
    - Environmental Policy Plan, which includes actions to restore wetlands and improve water retention in the landscape.
    - Agricultural Policy measures that encourage sustainable land use and restoration of natural habitats.
    - Local spatial planning policies aimed at preventing further degradation of valuable landscapes, including peat-rich zones.
    - Work is being done on national interpretation of the EU Nature Restoration Law, now in the process of forming definitions and incentivising rewetting to make it an attractive option for farmers.

- Legislation is in place to support sustainable business models. A good example is the visited farm and family business in Uitkerke, which demonstrates effective regional political framework adaptation. The additional use of a nature conservation area has enabled a progressive business model.
- Control over key areas is held by provincial authorities and delegated to organizations such as Natuurpunt, allowing for structured management options.
- There are existing measures for farm relocation and compensation for landowners affected by restoration efforts.
- Collaboration with agricultural education institutes is taking place to offer specialized training and to recruit successors for farms located in restoration areas.
- Physical infrastructures, such as weirs and barriers, are being developed and applied to manage water levels effectively.
- The use of digital twinning helps to simulate and make calculable the general trends and effects of various restoration measures.
- Measuring points are established to record the effectiveness of interventions and to monitor natural conditions and any changes over time.
- The use of adaptive infrastructure, including adjustable weirs and controlled flooding zones, reflects a forward-thinking strategy that balances ecological restoration with agricultural productivity.

3.3 Main stakeholders

- Farmers are primary stakeholders and are involved either through practical adaptation to new conditions or through relocation. Particular focus should be given to identifying and supporting potential successors.
- Landowners are also key stakeholders in the restoration and adaptation process.
- Provincial governments, in cooperation with associated institutions and nature conservation organizations (e.g., Natuurpunt), play a critical role.
- Politicians, particularly at the regional and national levels, are important actors in shaping and supporting climate adaptation strategies.
- State and European Union institutions are involved in providing financial support and enabling consolidation of efforts.

3.4 Recommendations for the host region and broader considerations

- In terms of business modeling:
    - It is important to define the role of civil society and explore how it can be integrated to support farmers, such as through product purchase agreements or similar arrangements.

    - There is a need to rethink traditional business models, moving away from family-run operations toward cooperative structures, such as multi-purpose cooperatives or joint business organizations.
- Collaboration with educational institutions should be intensified in order to train and prepare the next generation of professionals to work in restoration-focused agriculture.
- Funding of the private sector may be relevant to all types of rehabilitation projects, as suggested during the penultimate session of the workshop. If this is indeed the case, the issue should receive much greater attention. For instance, it would be beneficial to analyze the individual pilot sites or regions to identify which private sector actors are or could be involved locally and how they could be effectively connected with other stakeholders. Currently, the role and integration of private sector entities seem somewhat unclear, but this could likely be addressed through further targeted discussions.

4. Results and recommendations for WP1 for the Province of West-Flanders and the Flemish Land Agency

Focus

Sustainably rewet, restore or preserve peatlands and build new healthy peat landscapes to create buffers for carbon and water with increased biodiversity, resulting in restored peatlands, or detailed plans for restoration.

Questions

- What are the main challenges in this region in relation to peatland restoration?
- What activities on peatland restoration are implemented?
- What plans for further development are in place?
- What are the existing and potential funding mechanisms to realise the plans?
- What are the main goals for re-wetting the peat areas?
- What other co-linkage opportunities and benefits are being taken advantage of in peat restoration (water infiltration, health, green airco, etc)?

4.1 Main challenges

The availability of water is a limiting factor for rewetting. In the areas that were visited there was at least a seasonal shortage of water. For instance, in Romboutswervepolder flux sensors proved that ground water flew out of the area in dry seasons causing a dewatering rather than a rewetting. In Meetkerkse Moeren lack of water due to the climate change prevents a rewetting in the future although this was the original goal.

In some areas conflicting interests are a problem. For instance, Romboutswervepolder is situated in a Natura 2000 bird protection area. Rewetting would improve bird protection and prevent oxidation of the peat layer. However, high water levels and late mowing of meadows reduces quantity and quality of the harvest and makes agriculture less profitable in this area. In Kwetshage the lowlying areas are thought to serve both for water buffering as well as nature protection. However, in order to function as water retention basin the water levels in Kwetshage should be low whereas water levels should be high to promote wetland wildlife.

Land ownership is also a challenge in certain areas. Most lands are privately owned and peat restoration on a large scale is difficult. However, VLM showed in their presentation on the Uitkerse Polder that large scale restoration is being worked on.

4.2 Existing policies and activities

In Romboutswervepolder evidence-based water management was implemented using a network of ground water flux sensors. This allows for monitoring and modelling of water flows and thereby facilitates the optimization of water levels throughout the year.

In Meetkerkse Moeren a farmer holds Aubrac cattle on transiently wet meadows. This cattle race is hardy and can be fed with fibre-rich wetland gras mixed with nutrient-rich gras or hay. The farmers yield the nutrient-rich hay from fertilized meadows outside of the nature protection area. Another advantage of Aubrac cattle is the fact that the calves are small and can be born and kept in the stable in early spring until the weather conditions are favorable. The farmer's family owns a butchery, in which the meat is prepared and sold among others to local restaurants. This business model using wetland meadows and additionally highly productive meadows for cattle farming is profitable and at the same time protects peatland.

In Kwetshage a wind-driven pump was installed to compensate for water loss due to drainage of surrounding areas.

4.3 Plans for further development

Evidence-based water management in the Romboutswervepolder will make it possible to regulate the water level in anticipation of weather conditions. For example, water levels could be raised in advance of a dry period or lowered before heavy rain is expected.

The new goal in Meetkerkse Moeren is now to raise water levels as high as possible to prevent oxidation of the peat layer while omitting the original goal of re-wetting the whole area.

The Flemish Land Agency (VLM) is divided the Uitkerkse polder into smaller hydrological compartments, each with its own tailored water level management. This approach allows for more precise control of water levels based on the primary land use in each area, whether for nature conservation or agriculture.
New watercourses are being constructed to physically separate zones with different water level needs. For example, one channel ensures continued stormwater drainage from the city of Blankenberge, while another maintains lower water levels in adjacent agricultural areas. Weirs, earthen dams, and fish passages are being installed to retain water within compartments and support aquatic biodiversity. Wind-powered pumps are planned to supply additional water to higher compartments during dry periods, ensuring consistent moisture levels for peatland restoration. 5
The eastern part of the Uitkerkse Polder, covering about 437 ha, is the focus of these changes. Here, water levels will be raised to support wet grassland habitats and peatland regeneration, while still allowing for adapted forms of farming.
This compartmentalized system is a climate adaptation strategy that enhances water retention, reduces peat oxidation, and supports biodiversity, while also offering flexibility for land users. It reflects a broader shift toward multi-functional landscape management in response to changing environmental conditions

4.4 Existing and potential funding mechanisms

Natuurpunt owns 300 hectares in Romboutswervepolder. Another part of the land is owned by Natuurpunt together with the government. This makes it easier to realise the nature development plans in this area.

4.5 Main goals for re-wetting

In Romboutswervepolder the specific goal is a flexible and locally fine-tuned regulation of water levels. To this end, more weirs will be built.

The major goal in all areas is to prevent peat layers from oxidation by raising water levels. This way, carbon dioxide remains to be stored in the peat layer which would otherwise drive the climate change if released.

4.6 Co-linkages and benefits

Climate change already now leads to more frequent periods of drought. Water buffering in wetlands can therefore be a benefit for agriculture and for drinking water supply.

Re-wetting of peatlands is important for the protection of wetland life.

The beautiful landscape in Romboutswervepolder and the new information, education, and seminar building attracts groups of people interested in nature including students and tourists. This could foster local social life and economy.

Farmers in Meetkerkse Moeren produce high quality meat from happy cattles which is good for health and nutrition.

5. Results and recommendations for WP2 for the Province of West-Flanders and the Flemish Land Agency

Focus

Develop new or scale up existing business models for farmers and other landowners/-users in peatland areas, to boost sustainability transitions in order to mitigate and adapt to climate change, while stimulating a sustainable local economy.

Questions

- What new business models for novel entrepreneurship in wet peatlands are demonstrated?
- What challenges/issues are faced by the hosting region in the implementation or scale-up of the new business model (it can be - technical, regulation, market, financial...)?
- What is their strategy to get their business model adopted by the land managers/farmers/others?
- Is there a community approach, or bottom-up approach in place?
- If landusers/owners are involved, how are they involved?
- If citizens are involved, how are they involved?
- What knowledge is available and what knowledge is still missing?

5.1 Recommendations

- Clarify the hierarchy of priorities (e.g., water vs. biodiversity vs. farming vs. carbon) to guide decision-making.
- Include more economic modeling tools (e.g., CAP'2ER) to assess long-term viability of adaptation strategies.
- Encourage transferability analysis to assess how practices can be adapted to other regions with different socio-ecological contexts.
- Foster cross-country learning by comparing governance models and technical solutions.
- Highlight trade-offs and synergies between ecosystem services (e.g., carbon storage vs. agricultural productivity).

6. Results and recommendations for WP3 for the Province of West-Flanders and the Flemish Land Agency

Focus

Improve governance: create new or enhance existing cooperation structures involving all quadruple helix actors and enabling them to collectively shape, and take responsibility for, sustainable land management and ecosystem rehabilitation.

Questions

- What kind of stakeholders are involved?
- Which role do stakeholders have?
- What about the level of participation and the communication between the different stakeholders?
- Are events/workshops already part of the participation process? Are all stakeholders actively involved?
- Which stakeholders are missing that should have a role according to you?
- Is there a specific reason why some stakeholder groups have not been involved yet and how could this circumstance be changed?

6.1 Stakeholders and their role

For the Romboutswervepolder ,the stakeholders involved in the project include the Water Board, the Province of West Flanders, local authorities, Natuurpunt, farmers, the Flemish Land Agency (VLM), and the university of Antwerp.

The collaborative approach observed, led by Province of West-Flanders and involving Natuurpunt, local farmers, and municipalities, demonstrates how multi-stakeholder partnerships can effectively address complex challenges such as seasonal water scarcity, peat oxidation, and biodiversity loss.

The stakeholders play an active role in the project. They are included from the conceptual phase onward and have a voice in the decision-making process. This means they participate in both the creation and the implementation of the project plan.

During the site visit the collaboration between key stakeholders was clearly visible. The Flemish Land Agency (VLM) leads the coordination of water and land management strategies, working closely with Natuurpunt, local farmers, and municipalities. Their joint efforts aim to address climate-related challenges such as drought, peat oxidation, and water retention through adaptive infrastructure like weirs and controlled flooding zones.

6.2 Participation and communication between stakeholders

The Romboutswervepolder project follows an integrated approach, where all partners come together on a regular basis to discuss the project's progress. This regular interaction fosters better communication among the partners and strengthens the collaboration between the different stakeholders involved.

It is unclear to what extent participatory events are currently part of the process or how actively all stakeholders are involved in them.

Residents are missing from the stakeholder group. While they may only play a minor role, offering them the opportunity to express their views could reduce the risk of complaints or resistance. Often, simply giving people the chance to be heard is enough. Additionally, private landowners appear to be underrepresented. If I remember correctly, the participation of farmers was discussed, but it is unclear whether private landowners—if they exist in the project area—have been involved.

It is possible that certain stakeholder groups, such as private landowners or residents, have not been involved because they do not have a direct role in the realization of the project—perhaps due to their distance from the work sites or lack of direct impact. However, this situation could be improved by organizing an information session or distributing an informational booklet. Informing these groups in advance can help prevent misunderstandings and objections. Since the threshold for objecting is generally lower than for active participation, proactively balancing communication and transparency can be an effective strategy.

The Flemish model was praised for its collaborative approach, integrating farmers, conservationists, and public agencies. However, a noted gap was the limited direct engagement of conservation actors with farmers, suggesting room for improved integration.

The restoration of the Meetkerkse Moeren peatland area offers several valuable lessons in landowner engagement for nature-based projects. One of the most important takeaways is the critical role of collaboration. The success of the initiative was largely due to strong partnerships between government agencies, conservation organizations, and local farmers. Building trust through one-on-one engagement allowed for tailored solutions that respected both ecological goals and local livelihoods.

6.3 Lessons learned

One of the key lessons from the Romboutswervepolder pilot is the value of collaboration among diverse actors in tackling complex environmental and water management challenges. For The Rivers Trust and its partners/collaborators, this case highlights the importance of cross-sector collaboration, nature-based solutions, and community engagement in building resilient catchments. The involvement of organizations like the Flemish Land Agency, Natuurpunt, local governments, farmers, and research institutions demonstrates how integrated approaches can lead to more resilient and multifunctional landscapes. Each partner brings unique expertise, whether in ecological conservation, agricultural practices, policy-making, or technical innovation, which enriches the overall strategy and ensures that solutions are both practical and sustainable.

Both the Flemish Land Agency (VLM) and the Province of West Flanders are making significant efforts to involve as many stakeholders as possible. They are actively working toward an integrated approach that embraces the quadruple helix model of stakeholder engagement, which includes public institutions, private actors, civil society, and academia.

Furthermore, the organizations involved demonstrate strong commitment to achieving

environmental improvements. Even when the original goals are no longer fully attainable due to the effects of climate change, they do not abandon the initiative. Instead, they strive to reach the best possible outcomes under the circumstances, setting new goals rather than shifting their efforts to unrelated alternatives.

Importantly, the Uitkerkse Polder project showed that farmers can be powerful innovators. The local farmer's decision to explore wetland-adapted cattle breeds and adopt the French Aubrac, after direct exchanges with French farmers, demonstrated a proactive and entrepreneurial mindset. This was further reinforced by the farmer's son, who launched a butcher shop to market the unique qualities of Aubrac beef, adding value to the family's nature-friendly farming mode

Social dynamics also played a role. Concerns about reputational risk within the farming community were real and needed to be addressed with sensitivity. This highlights the importance of understanding and managing cultural perceptions when promoting change.

Based on these insights, several recommendations emerge. First, it is essential to engage farmers early in the process and involve them in co-designing solutions. Their local knowledge and buy-in are critical for long-term success. Second, restoration projects should include not just initial funding but also ongoing financial and advisory support to help farmers adapt over time. Third, peer-to-peer learning, such as farmer exchanges, can be a powerful tool for building confidence and accelerating adoption of new practices.

Additionally, encouraging economic diversification through value-added enterprises like local food production or eco-tourism can strengthen rural economies and make nature-friendly farming more attractive. Finally, consistent monitoring and transparent communication of both ecological and economic outcomes help maintain momentum and build trust among all stakeholders.