The ‘Olmerbaach Project’: Local municipal collaborations in action
- Restoring the headwaters and catchment of a small surface-fed stream



Photo: Site visit to one of the newly restored ponds with representatives of the municipality of Koerich, the farmer and SICONA. Credit: SICONA

Name	SICONA
Country	Luxembourg
Biogeographical Region	Continental
Region	Gutland /Lias moyen / Kanton Capellen
Landscape/ Eco system type / protected area	Open and semi-open grasslands in a hilly landscape with wetlands along a small perennial stream.
Size / Scope	11 ha; 1,700 m small stream
Type of farm	Conventional dairy farm
Agricultural Use	9.5 ha of pastures; mostly wetlands. 0.3 ha meadows
Best-practice / main idea	Rotational grazing preventing outbursts of parasites. Short vegetation und mud for ground breading birds and amphibians.
Involved Stakeholders/ Partners	• Local municipalities: Commune of ‘Koerich’ and Commune of Kehlen, supported by the landcare association ‘Naturschutzsyndikat SICONA’ • Private landowners

	• Local farmers
Duration	The project's conception started in 2013 first restorations took place in 2015
Goals	• Create breeding and resting sites for waterbirds, particularly waders, during the migration period. • Reintroduce endangered amphibians. • Restore the morphology of the small stream. • Restore wetlands and reactivate historical ponds.
Measures addressing water and/or soil management	• No fertilisers, herbicides or pesticides are used on pastures, helping to protect soil biodiversity. • Stream protection: The stream is partially protected from cattle access. • Stream restoration: The restored stream is allowed to flow freely. • Water retention: Water is stored in the ponds. • Controlled water release: Water from the larger ponds can be released very slowly through regulated outlets, allowing the wetlands and the stream to receive a steady water supply over an extended period, including during dry periods.
Measures addressing biodiversity, climate	• Buffering hydrological extremes: Ponds help mitigate the effects of floods and droughts. • Recolonisation of ponds: Return of species such as the European tree frog *(Hyla arborea)*. • Wetland habitat creation: Waders such as the common snipe (*Gallinago gallinago*) and little ringed plover (*Charadrius dubius*) use the wetlands and margins of the larger ponds. • Aquatic biodiversity: Return of fish to the small stream.
Funding / Financing	• Municipal level: Funding and financial contributions from the municipalities of 'Koerich' and 'Kehlen'. • National level: Financial support from the 'Fonds pour la protection de l'environnement' and the 'Règlement grand-ducal du 30 September 2019 concernant les aides pour l'amélioration de l'environnement naturel', which provides financial support for biodiversity conservation and nature restoration measures. • National biodiversity programme: The project benefits from the Biodiversity Contract ('Contrat biodiversité'), a national funding scheme for biodiversity conservation, notified to the European

	Commission and separate from the CAP-funded agri-environmental measures (AECM). • Compensatory measures: Parts of the restoration were financed through an ecological compensation measure ('CEF measure') linked to a private organisation.
Transferability	The approach offers high potential for replication and scalability, with opportunities for adaptation across different regions and EU Member States. Funding is crucial.
Tip / suggestion from the project	Find a balance between productive land use, local economic value creation, and the conservation of biodiversity, climate and ecosystem services.
Role of Landcare Associations	• Project development and management, including fences and other infrastructure. • Guidance on pasture management. • Coordination with national administrations. • Funding support, including access to ministry. subsidies and mobilising local municipalities. • Scientific monitoring, • Guided visits.
Further information	https://sicona.lu/forschung/berichte/ → Feuchtgebiete (German)
Contact information	https://sicona.lu/kontakt administration@sicona.lu

"***Our aim is to find a grazing system that is practical for farmers and suited to the site's ecological objectives. Grazing the pond margins helps to maintain short, open, muddy shorelines that provide suitable habitats for wetland species.***"

Frank Sowa, 'Naturschutzsyndicat SICONA'

The project area before the project

Before the Olmerbaach project was initiated, the current project area consisted primarily of arable land and species-poor grassland. “The agricultural land featured an extensive subsurface drainage network. As a result of this land use, the small stream had become deeply incised and straightened. Along a section of approximately 160 metres, the stream was culverted,” explains Frank Sowa, project manager at the Landcare association 'Naturschutzsyndicat SICONA'.

However, historical maps and remnants of small dams that can still be seen in the area suggest that the Olmerbaach historically formed a series of shallow, dammed ponds. These ponds were created by small dams that held back the stream's flow, forming a chain of relatively shallow impoundments. They were presumably established during the Middle Ages and may have been used for fish farming and/or ice harvesting.

The beginning of the ‘Olmerbaach’ project

In 2013, the municipality of ‘Koerich’ had the opportunity to acquire land alongside the small ‘Olmerbaach’ stream. After consulting with SICONA about the area's ecological potential, the municipality decided to purchase the land.
Together with parcels already owned by the municipality and following several land exchanges, facilitated and negotiated by SICONA, the municipality eventually became the owner of approximately 1.6 km of the stream valley and an adjacent side valley with a tributary.

From 2017 onwards, the project area was extended downstream into the territory of the municipality of ‘Kehlen’, wguxg ua directly adjacent to the area managed by the municipality of ‘Koerich’.

This mainly involved land belonging to private owners who agreed to participate in the project. Additionally, the municipality of ‘Kehlen’ acquired a small section of land from private owners. This enabled the project area to be extended by around 450 metres along the stream.

The first restoration works began in 2015. While the historical ponds were an important feature of the former cultural landscape, providing valuable habitat for waders, the construction of dams interrupted the stream's natural continuity, preventing the free passage of water and aquatic organisms, and altering the natural flow dynamics.

The new restoration concept therefore aimed to combine the ecological benefits of large, shallow ponds with those of a freely flowing stream. Rather than damming the ‘Olmerbaach’, the stream was restored to flow freely alongside the ponds. As a compromise with the historical pond layout, the restored ponds are smaller than the original ones.

The ponds in the stream valley are connected to the stream laterally and only receive water during periods of high flow. Under normal flow conditions, the ‘Olmerbach’ remains free-flowing; during periods of high water levels, however, part of the stream flow can enter the adjacent ponds. This approach combines stream continuity with shallow wetland habitats, enabling the ponds to retain water for extended periods. In the tributary valleys, the historical

ponds could be restored by rebuilding the former dams to recreate their function as large, shallow bodies of water.



Photo: Upper part of the valley, with the newly restored pond and stream in the foreground, restored in 2024. Credit: SICONA

Management with rotational grazing

"*The grazing system was designed to combine practical benefits for the farmer with ecological objectives*", highlights Frank Sowa. Dry cows from a dairy farm are used for grazing, meaning that the farmer does not need to keep a separate herd of beef cattle.

The animals are managed through rotational grazing from April to the end of November, which keeps the cattle moving between different grazing areas and helps reduce parasite pressure. Grazing is carefully managed to maintain short grassland throughout the year, including around the ponds. The grazing of the pond margins helps maintain short, open and muddy shorelines, providing suitable habitats for wetland species.

Larger sections of the main river stream are fenced off from cattle to protect the stream and its banks. The fences are maintained by SICONA, ensuring that the stream remains protected while the surrounding grasslands continue to be grazed.

"*We also manage woody vegetation and deadwood along the stream. In selected areas, natural vegetation growth is encouraged to develop more structured riparian habitats, while in other areas, the growth of shrubs and trees is actively controlled to maintain open habitats required by waders. Deadwood within the stream is deliberately retained and promoted where appropriate, with SICONA monitoring its development and ecological function*", explains Frank Sowa

The dammed ponds are equipped with a regulated outlet, allowing the water level to be controlled. Water can be released down to a defined minimum level, ensuring that the pond

does not drain completely. A shallow, permanently flooded area remains at the lowest part of the pond, providing a continuous water body for wetland species.

The minimum water level is determined by the height of the outlet in relation to the pond bottom and its deepest point. The outlet is deliberately kept very small, so that during dry periods, water can continue to flow for approximately two months. This provides a prolonged water supply to the wetlands downstream and maintains additional flow in the small stream.

The water level and discharge rate can be adjusted throughout the year, allowing water retention and release to be adapted to seasonal conditions and ecological requirements.



Photo: Section of the Olmerbaach restored in 2022. Credit: SICONA

First species begin to (re) appear

The common snipe (Gallinago gallinago) and little ringed plover (Charadrius dubius) have become frequent visitors to the wetlands, while black storks (Ciconia nigra) have also been observed at the site. The European tree frog (Hyla arborea) is beginning to establish itself in the area. Following its reintroduction in the lower part of the project area, the species has gradually spread upstream. Fish such as European stone loach (Barbatula barbatula) and minnow (Phoxinus phoxinus) have also been observed as far upstream as the upper reaches of the stream. The older ponds have developed rich floating-leaved aquatic vegetation, adding further habitat diversity.

Outlook

The project aims to continue working with the current farmer, who has traditionally managed and grazed these areas. The farmer is a dairy farmer, and the first trials of the adapted grazing system have already been carried out using his dry dairy cows. The intention is to build on this experience and further develop the grazing system.

The next step would be to further develop the grazing system towards the use of a hardy beef cattle herd, while keeping the management with the same farmer. The aim is to find a grazing system that is both practical for the farmer and suited to the ecological objectives of the site. One option being explored is to keep the cattle on the site during winter, provided that suitable livestock shelter is available. The aim is to ensure that this adapted grazing system does not create additional workload or burden for the farmer.

The precise management approach is still being discussed with the farmer and will be further developed based on the experience gained from the initial trials.

Another objective is to improve the connectivity between the currently separated grazing areas. At present, the pastures are divided by a parcel that is not part of the project area. Improving this connection could allow for more flexible and effective grazing management.

The reintroduction of the amphibian 'Bombina variegata' (yellow-bellied toad) is also planned, with a trial expected to start from 2028 onwards.

Author: Frank Sowa, Naturschutzsyndikat SICONA, 25.09.26

This work is licensed under CC BY SA 4.0. Photographs containing identifiable persons are excluded from this license and may not be used without additional permission.

Water~Farmers

Co-funded by the European Union

'Funded by the European Union. However, the views and opinions expressed are solely those of the author(s) and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor the EACEA can be held responsible for them.'