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Importance of peatlands

For peat to form, it takes ... time. Plant remains accumulate in wet areas very slowly and it takes thousands of years for deep peat deposits to form. This dark, moist soil does not look interesting; however, it creates one of the most unusual natural habitats – peatlands. While peatlands are rather poor in species richness, due to their water and habitat conditions, they are characterised by specifically adapted vegetation and frequent occurrence of rare and endangered species. Although on a global scale, peatlands occupy only a small fraction of land, they play an extremely important role in the functioning of ecosystems (such as carbon storage) and are part of many processes that are vital not only to biodiversity, but also to the well-being of humans.



Wetlands are aptly called „kidneys of the landscape”, because they purify water when it flows through them. Their filtration function is particularly important in farmland areas, where they accumulate agricultural nutrients. Peatlands also store huge amounts of water, absorbing it during rainy periods and releasing it during water shortage, thus alleviating the scale of floods and droughts. They also have an impressive ability to accumulate carbon, which is important in mitigating the effects of climate change. Despite their small surface, peatlands bind twice as much carbon as do all the forests on Earth! In addition, peatlands reduce erosion and make the local climate milder. In the heavily transformed landscapes of our climate zone, peatlands are also one of the last 'wild' places, providing us with a sense of pristine nature. Finally, peatlands are places of traditional, extensive land use, such as mowing and cattle grazing on fens or berry and medicinal plants collection on bogs.

Peatlands in danger

Around 25% of the global peatland area and 90% of peatlands in Europe have been degraded following human activity! In order to be able to do farming on wetlands, humans drain them, causing the water level to decrease and, consequently, exposing peat deposits. This, in turn, triggers a cascade of successive events. Peat decomposition causes an increased release of carbon dioxide into the atmosphere, intensifying the effects of climate change. It is estimated that CO₂ emissions from degraded peatlands account for as much as 6% of total human-caused greenhouse gas emissions! Drainage of peatlands reduces their water retention capacity. At the same time, drained peatlands lose the ability to filter water and, additionally, become a source of nutrients, which increases the pollution of rivers and seas. Also, the plant and animal communities associated with peatlands disappear. Drained areas are much more susceptible to soil erosion and fires. Due to drainage, the peatland habitat which has been formed for thousands of years, disappears in front of our eyes...



The project DESIRE - restoration of peatlands

The negative effects of destroying wetlands are visible at both local and global scales! Therefore, it is vital to preserve pristine peatlands and restore the drained ones. The project DESIRE helps to revitalise some damaged peatlands in the Neman River catchment. It also provides tools for different stakeholder groups, which enable up-scaling of good practices of restoration for wider implementation. Although the main aim of DESIRE is to increase nutrient retention and in consequence improve water quality in the Neman catchment, the project brings much more benefits through peatland restoration – it mitigates the effects of climate change, improves the absorption capacity of peatlands thus reducing the risk of flooding, and helps to protect biodiversity. One of the incentives linked with bringing back high-water levels on drained peatlands is paludiculture – the economic use of wetland plants, which is also widely promoted within the project. This is why all peatlands should be wet!



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www.neman-peatlands.eu

The project is implemented in the period of January 2019 – June 2021 (30 months) by eight partners and nine accompanying institutions from five countries – Germany, Poland, Lithuania, Russia and Belarus. The leader of the project is the University of Greifswald. The main goal of the DESIRE project is to support wetland management to improve water quality in the Neman River basin (and thus the Baltic Sea) and to restore other ecosystem functions of peatlands. The project is co-financed by the European Union under the European Regional Development Fund and the Baltic Sea Conservation Foundation.

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The importance and protection of peatlands

Development of sustainable (adaptive) peatland management by restoration and paludiculture for nutrient retention and other ecosystem services in the Neman River catchment.