

Peatlands to the Rescue! New Project Targets Nutrient Pollution to Baltic Sea



Figure 1. Eutrophication

Otaniemi, Finland. June 7 2024- Saving the Baltic Sea AND mitigating climate change has never been easier! Through the creation of a peatland rewetting site selection system, which prioritizes water protection, significant progress can be made on improving water quality, carbon sequestration, and restoring habitat biodiversity.

Over half of Finland's peatlands have been drained many decades ago, and most of their valuable ecosystem services such as nutrient cycling, carbon storage, and mitigating flood risk have stopped functioning. By rewetting peatlands, we can try to restore them to their natural glory and bring back their benefits with time. The new peatland site selection system is a comprehensive approach to prioritizing water quality based on the following criteria: Catchment area, Natural flow paths, Landowners, Flood risk, and Protected habitat and species.

In this project, students from Aalto University created a peatland rewetting site selection system and implemented it in Temmesjoki catchment where four initial sites were selected. This is a great starting point for the hundreds of other possible rewetting sites in Finland. Our rewetted peatlands help avoid eutrophication, mitigate climate change by storing carbon, and bring the natural ecosystem back to life. Rewetting also reduces the risk of flooding and wildfires, and cleaner ecosystem promotes overall community well-being. Rewetting peatlands brings benefits in the form of social, economic, and environmental. Many of these benefits are intertwined, such as a healthier environment

will encourage tourism and recreational activities. For Finland, a country so proud and passionate of its beautiful nature, this will be a big positive step!

Here is the breakdown on how to use the prioritization: 1) Define the catchment area and scan through it to find low-yield lands with ditches (or undrained if looking for easier and cheaper solutions). 2) Eliminate areas where the natural flow paths only lead out of the site. 3) Count the number of landowners, since projects can be hard to implement when there are many landowners. 4) Make sure that the site has some “dome” shape to it to prevent flooding in the outer parts. 5) Check if the site is in protected area. Remember to keep the main focus on the size of site and the potential of making the biggest impact on water quality.

This research introduces a new dimension to prioritization through efforts of restoring natural flow paths while improving water quality. Implementing and maintaining peatland restoration projects can be beneficial for the government in terms of achieving carbon capture targets and would be an opportunity for economic improvements in industries such as fishing, and tourism and recreational activities associated with cleaner Baltic and restored peatlands. Additionally, these projects open doors for funding for research and development, and one of the notable ones is EU funding in the LIFE Peat Restore. With rising pressures from agricultural land use and climate change, timely and appropriate rewetting actions are essential to prevent Baltic Sea suffering from algal bloom and to help mitigate the climate; As American novelist and poet Wendell Berry wisely said, “The earth is what we all have in common.”

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