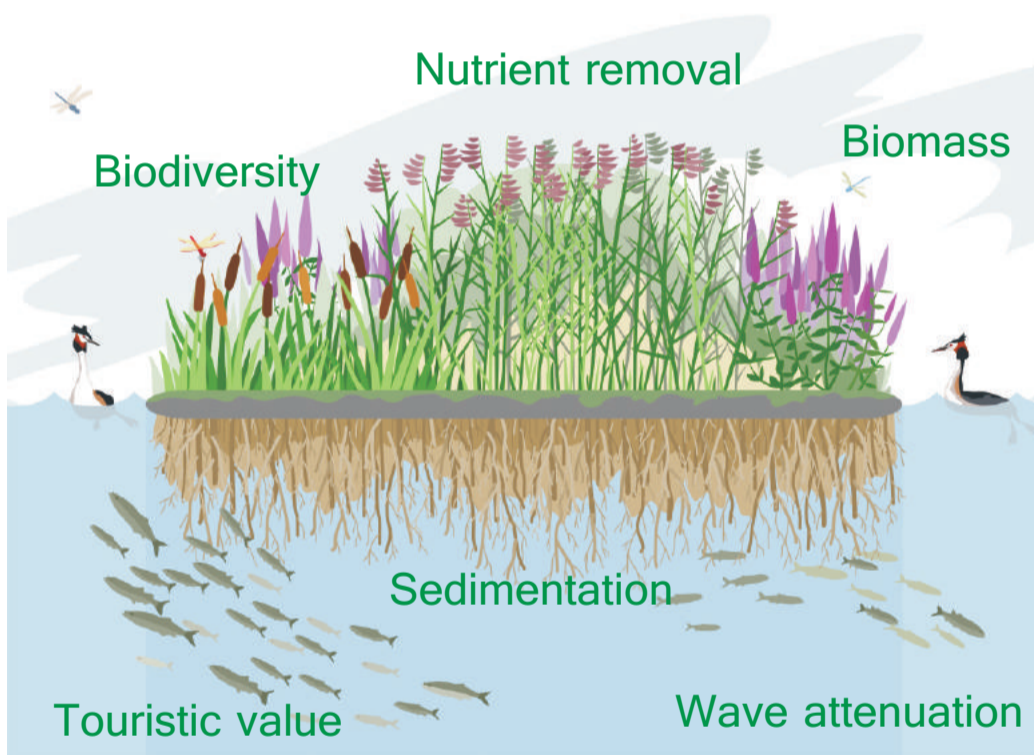


SUSTAINABLE HARVEST OF EMERGENT MACROPHYTES AND INNOVATIVE FLOATING WETLAND ISLANDS AS AN OPTION FOR NUTRIENT REMOVAL IN EUTROPHICATED SOUTH BALTIC LAGOONS

Phytoremediation in coastal wetlands

Lagoons with their vast wetlands along the South Baltic Sea have been heavily impacted by humans for decades and nutrients have accumulated in the sediments. Internal measures are needed in addition to mitigation measures at land in order to achieve the good ecological status required by the Water Framework Directive. One option to tackle the internally accumulated nutrients is phytoremediation and the harvest of emergent macrophytes. Besides harvest in natural wetlands an innovative new solution arose: Floating wetlands!

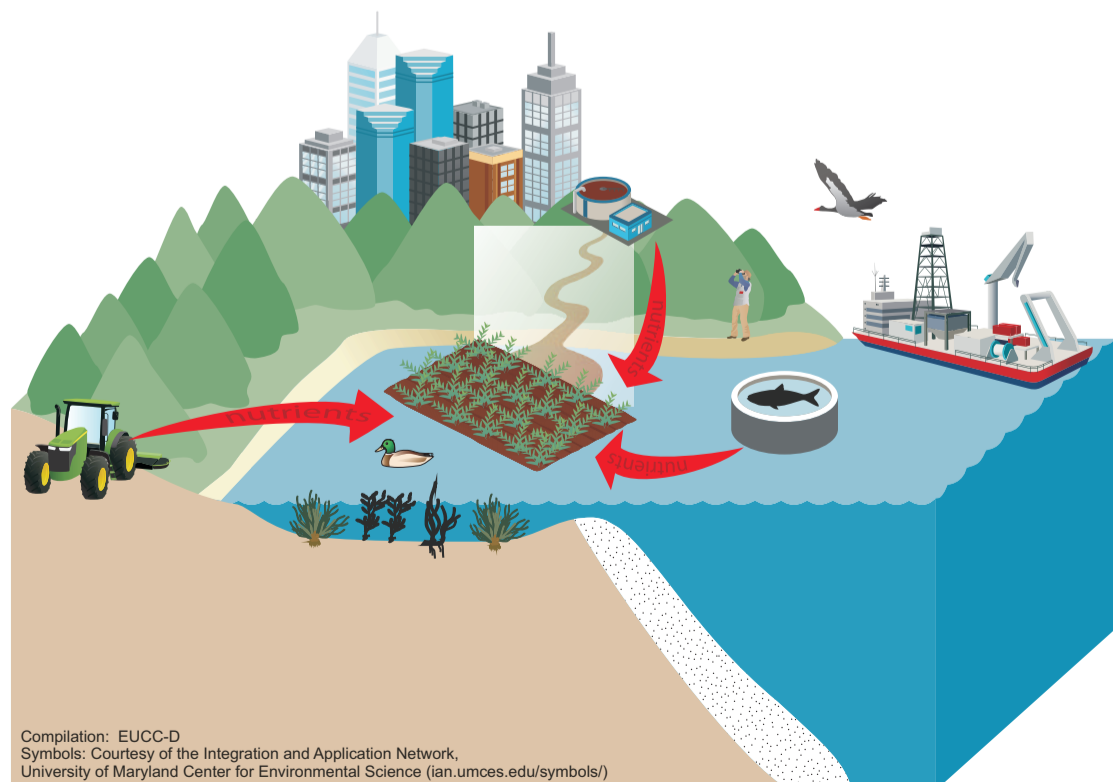


Floating wetlands to increase flexibility

Within the LiveLagoons project floating macrophyte islands will be tested and installed in different lagoons along the South Baltic to further increase the flexibility of phytoremediation. These “active barriers” can be placed in the lagoons where nutrient removal and improvements in water transparency are needed most urgently. The floating wetlands offer also a chance for submerged macrophytes to resettle. The installations will be linked to nutrient quota trading mechanisms for connecting effective nutrient abatement measures with voluntary financiers willing to acquire nutrient offset.

Phosphorus removal via harvest

Fast growing macrophytes such as reed are particularly suitable. Reed is one of the most dominant species of coastal wetlands along the South Baltic Sea and can store up to 8 g P m⁻² in the above-ground biomass (DOI: 10.1016/j.scitotenv.2017.10.244). Sustainably harvested biomass could then be used for a variety of products, inter alia as insulation material for walls or as roofing material, as energy source (combustion, biogas, biofuel) or as fodder when harvested in summer.



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