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# sciform-103366: Floating Wetland Islands as a water treatment technology

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Floating wetland islands (FWIs) are innovative nature-based solutions designed to enhance water quality in various aquatic environments, including lakes, ponds, and reservoirs, while restoring their ecological functions. In recent years, FWIs have gained popularity due to their effectiveness, low cost, and low maintenance needs. These systems provide a range of valuable ecosystem services, such as boosting biodiversity, enhancing aesthetic appeal, and improving water quality through phytoremediation. The plants on FWIs absorb excess nutrients like nitrogen and phosphorus, mitigating nutrient pollution, reducing eutrophication, and preventing water body degradation. Additionally, the microorganisms associated with plant roots and floating mats decompose organic matter, while the plants facilitate oxygen transfer into the water. Moreover, FWIs provide essential habitats for wildlife such as birds and insects, thereby enriching local biodiversity.

This study aimed to showcase the implementation of an FWI composed of a polyculture of *Iris germanica*, *Acorus gramineus*, *Caltha palustris*, and *Typha latifolia*, established on a cork agglomerate platform in a freshwater pond. The FWI was installed in 2018, with ongoing monitoring to evaluate improvements in local biodiversity and to assess the long-term effectiveness of the buoyancy in supporting plant growth.

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