



## NATURE BASED SOLUTIONS AS GREEN TECHNOLOGIES FOR WASTEWATER TREATMENT

### IDEA / PROPOSAL:

Aquatic Green Warriors: Evaluating Plant-Based Removal of Micropollutants and Nutrients from Wastewater

This project aims to evaluate the effectiveness of artificial floating islands (AFIs), planted with different species, in removing nutrients and micropollutants (MPs) from domestic wastewater. The study will apply an ecotoxicological approach to assess both contaminant removal efficiency and associated biological effects.

Controlled mesocosm experiments will be conducted using various plant assemblages. Water samples will be analysed for physicochemical characteristics, nutrient concentrations, and MPs (informed by previous field data). Plant performance will be monitored through biomass production and photosynthetic activity. Micropollutant bioaccumulation will be quantified in both above- and below-ground plant tissues. Additionally, biochemical responses—such as oxidative stress indicators and antioxidant activity—will be measured to evaluate plant health and pollutant-induced effects.

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