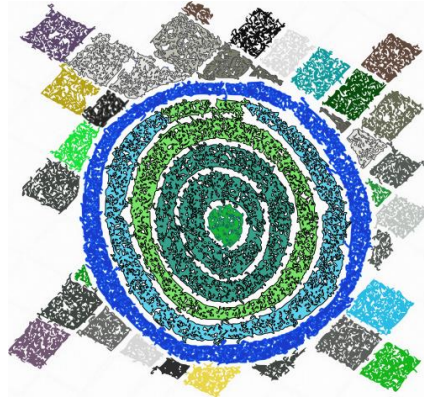


Proposal for 2nd Collaborative European Freshwater Science Project
for Young Researchers (“FreshProject 2.0”)



– **Urban algae** –

Ecological Status and the Perception of Ecosystem Services of Urban Ponds.

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PROJECT ABSTRACT

Ponds are small in size (< 5 ha) and often shallow man-made aquatic systems that are commonly found in urban areas and provide several highly valuable ecosystem services such as storm water retention or recreation. While literature about the ecosystem services they provide and their ecologic status is increasing, the linkage between ecological status and social valuation of urban ponds is still not very clear. The concept of ecosystem services is a widely used tool, which shows how important ecosystems like urban ponds are to the society. However, the citizens' perspective of urban ponds varies for different ecosystem services. Ecosystem services are often dependent on and affected by the ecosystem functioning of the ponds. Primary producers are key players in aquatic ecosystem functioning (nutrient recycling, carbon sequestration), but in urban environments they are influenced by multiple stressors, and as a consequence the structure and biodiversity of the primary producers varies drastically. The community of primary producers has repercussions, both to the ecosystem functioning and ecosystem services, and thus, citizen perception can be used as an indicator of their status (e.g. high eutrophic/eutrophied green ponds are not as well perceived as a clear water, macrophytes-dominated pond, even though the public does not necessarily have the scientific knowledge to distinguish trophic states of aquatic ecosystems).

We hypothesize that a good ecological status of urban ponds' water will be reflected in the perception of the public by a high valuation of ecosystem services. This project will, for the first time, merge citizens' perception and urban ecology. We aim to have a gradient of urbanization and latitude across Europe. For this purpose, ca. 25 teams from multiple locations will sample for ecological status and perform online citizen surveys based on images of the studied ponds in order to disentangle the relationships between ecological status and perception of the public of urban ponds. In the light of increasing urbanization, the development of tools for stakeholders for the effective and efficient management of urban ponds is important. To develop these tools a sophisticated understanding of the ecological status in combination with the ecosystem services is fundamental, but is currently still not available. With the *Urban Algae* project, we contribute to filling this knowledge gap by creating a pioneer citizen survey on ecosystem services and combining this with a simultaneous investigation of the ecological status of European urban ponds.