

Constructed Floating Wetlands

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ABSTRACT

Constructed Floating Wetlands (CFWs) are variants of Constructed Wetlands. They are also called ‘planted floating system beds’, ‘artificial or vegetated floating islands’ or ‘ecological floating beds’. They consist of emergent vegetation which is usually established on a buoyant structure, and so, it floats on the water surface. The vegetation has an upper part above the water surface, and a lower part (roots) which is ‘hanging’ within the water column, and so, it can uptake nutrients and other pollutants.

We will present and insight on CFWs based on the published current literature. We will discuss several issues, such as application of this technology, description of floating structures and relevant materials, appropriate vegetation species, design parameters, pollutant removal capabilities, operational parameters affecting performance, mathematical modeling. Finally, we will present our experimental results from pilot-scale system application regarding nutrients and agrochemical removals in such systems.

KEYWORDS

Constructed Floating Wetlands; natural wastewater treatment; Nitrogen; Phosphorus; Pesticides; Removal performance