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Restoration of our lakes and rivers with wetlands — An important application of ecological engineering

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Abstract

The role of wetlands, both natural and man-made, in improving water quality of streams, rivers, and lakes is illustrated with examples of fringe, instream, and riparian wetlands. Fringe wetlands have been shown to reduce inputs to freshwater lakes, instream wetlands can improve habitat and provide some water quality function to small streams, and riparian wetlands along larger rivers provide important roles in both capturing sediments and nutrients from the river itself and serving as buffer between uplands and the river. Two major experimental riparian wetland sites in Midwestern USA are introduced: The Des Plaines River Wetland Demonstration Project and the Olentangy River Wetland Research Park.

Keywords

Nutrient budgets; Midwestern USA; phosphorus; riparian ecosystem; water quality; wetlands