

Removing sediment transport in open channel with submerged aquatic vegetation: Laboratory study.

Abstract

Vegetation affects fluvial processes and is key role in river management in particular sediment transport. Vegetation characteristics such as vegetation's density, height and distributions have significant effect on sediment transport in vegetated channel. This paper studied the role of aquatic vegetation characteristics in sediment transport. Laboratory experiments were conducted in a fabricated channel with real vegetations (*Hydrilla verticillata*) planted on its bed. The total suspended solid (TSS) was applied for sediment rate measurement. As results, it is found that vegetation density and distribution has significant impact to the sediment entrapment capacity of the vegetation. An increased coverage of the vegetation from 33 to 66% of the flow area has increased the sediment trapping capacity in average by 15%. To sum up, the present study was designed to determine the effect of the vegetation properties on sediment transport rate.

Keyword: Sdiment transport; Aquatic vegetation; Vegetated channel.