

Flow Structure and Water Quality Effect on Vegetation Behavior

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Vegetation in the river is affected by flow structure, but inversely affects flow structure. Thus, the vegetation and flow structure has mutually reciprocal relationships. Variation of flow structure by vegetation also affects the transportation of riverbed materials. This study deals with the variation of the vegetation area, the variation of the size of riverbed materials, aggradation and degradation of riverbed by flow structure, and the habitat condition of flow structure and water quality by vegetation types. The results showed that *Persicaria thunbergii* grew up before floods, but easily damaged by the high tractive force and the sediment inflow after floods. *Phragmites japonica* showed its relative strong tolerance against the high flow velocity by floods. *Phragmites japonica* inhabited in the range of low Froude Numbers, and had an important role against sweeping away and scouring of riverbed materials by reducing flow velocity. It also inhabited in the range of relatively high DO, low T-N and BOD, which showed that it inhabits in the upstream of the streams.