

Roles of Aquatic Plants on Erosion Relief of Stream Bed

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Abstract : Roles of the vegetation to mitigate the erosion of the stream bed or to facilitate the deposition of the fine sediments by the species of the aquatic plants were presented. Field investigation on the estimation of the change of the bed level and the estimation of the flow characteristics were performed. The results showed that *Phragmites japonica* has the mitigation function of 0.3m-0.4m of the erosion in the range of higher than 1.0m/s of flow velocity at the vegetated region. *Phragmites communis* has the mitigation function of 0.2m-0.3m of the erosion in the range of higher than 0.7m/s of flow velocity at the vegetated region. *Salix gracilistyla* has greater role than *Phragmites japonica* and *Phragmites communis* to sustain the stable channel. It has the mitigation function of 0.4m-0.5m of the erosion in the range of higher than 1.4m/s of flow velocity. *Miscanthus sacchariflorus* has a weak role compared with that of *Phragmites japonica* and *Salix gracilistyla*, but it has still function for sustaining the stable bed. From these results, the vegetation has effective roles to mitigate the erosion or to facilitate the deposition of the stream bed.

Keywords : aquatic plants, *Phragmites japonica*, *Phragmites communis*, *Salix gracilistyla*

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