水流導致不同密度植生群附近沖刷之試驗研究

詹勳全[1]　黃泰然[2]*　柯柏睿[3]

摘　要　本研究透過模型試驗，以鋼棒模擬植生根部近床處沖刷情況，比較不同密度模型植生對底床沖淤影響差異。由於台灣地區河道中植物通常沿兩岸生長，故將模型布置於渠槽邊壁，以模擬河道中植生受水流衝擊時，一側受堤防等構造物影響之結果。結果顯示密度愈低時沖刷現象僅於模型植生棒周圍較明顯，隨著密度增加，最大沖刷深度由植生群中心向上游方向移動。沖刷影響範圍與深度和植生區密度成正比，密度愈高則沖刷影響範圍愈廣、深度愈深，而砂丘堆積高度與植生區密度相關性較低。

關鍵詞：植生、底床沖刷。

Experimental Study of Flows Induced Scour around Vegetation Patch in Different Density

Hsun-Chuan Chan [1]　Tai-Ran Huang[2]*　Bo-Ruei Ke[3]

ABSTRACT This study experimentally study flows induced scour around vegetation patch in different density. Steel sticks were used to simulate riparian vegetation. Since vegetation in Taiwan grows along the bank, so the vegetation model is arranged along one side of the flume wall. Therefore, the experiments simulated the near bank scour in the jointed effects of vegetation and levee. The results showed that scour can only be found around vegetation sticks in the case of low vegetation density. As the vegetation density increases, the maximum scour depth moves toward to vegetation center in an upstream direction. The area and depth of scour is proportional to the vegetation density. However, the height of depositing dune is in a low correlation with vegetation density..

Key Words : Flap gate, Hydraulic experiment.

〔1〕國立中興大學水土保持學系副教授
Associate Professor, Dept. of Soil and Water Conservation, National Chung Hsing University, Taichung 402, Taiwan
〔2〕國立中興大學水土保持學系碩士班研究生（* 通訊作者 E-mail: hank9630@hotmail.com）
Graduate student, Dept. of Soil and Water Conservation, National Chung Hsing University, Taichung 402, Taiwan
〔3〕國立中興大學水土保持學系碩士
Graduate student, Dept. of Soil and Water Conservation, National Chung Hsing University, Taichung 402, Taiwan