

FLUVIAL MORPHOLOGY AND WATER QUANTITY AT THE JUNGCHEON RIVER, UIRYEONG-GUN, KOREA

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ABSTRACT

River morphology is the shape or form of a river along its length and across its width and results from the complex interplay of many geomorphic process that occur in a basin at different spatial and temporal scales. Water of sufficient quality and quantity is critical to all life. Healthy and self-sustaining river systems provide ecological and services of critical importance to human societies everywhere. This study is to investigate the degree of river naturalness according to the river morphology and river naturalness on the Jungcheon River at Uiryeong-gun, Gyeongsangnam-do in Korea. The vegetation of low water's edge was natural weeds, shrubs, and mixed. The vegetation of flood way was both of natural vegetation and artificial vegetation. Land use in riparian zones was urban, residential mixed. Land use in flood plains beyond river levee was park facilities, playground facilities. The value for index of degree of river naturalness according to the environment factors at upper, middle, and low regions were a mean of 2.857, 3.714, and 4.143, respectively. As a result of an analysis about environmental factors for the numbers of animals including fishes in each surveyed sites, the most effective groups were, pH, suspended solids (SS), dissolved oxygen (DO), chemical oxygen demand (COD), total phosphate (T-P), and total nitrate (T-N). However, the Biological Oxygen Demand (BOD) middle and low streams were within unacceptable levels for drinking water.

Keywords: Biological Oxygen Demand (BOD), river morphology, river naturalness, Jungcheon River.