

River-Continuum and Flood-Pulse: Exploring Ecological and Hydrologic
Concepts in Riparian-wetland

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Abstract

This paper aims to discuss the major concepts of riverine ecology since 1980s. Since two concepts, river continuum (1980) and flood pulse (1989) have been proposed to provide conceptual bases for ecological prediction of flora and fauna within riverine studies as well as for riverine ecological planning. The river continuum concept, first presented by Vannote and his colleagues, provides a framework for predicting variability in a biological community from headwater streams to river mouth. Junk and his colleagues, argued for the concept of river continuum, states that a long and predictable pulses in discharge which expand the river onto riparian are the most important hydrologic feature. We discuss and remark relative research papers since 1980 to 2005 comprehensively. However, the flood pulse concept also has the similar problem. Most expectations occur because human influences increase unpredictability. Several mechanisms, such as riparian removal, logging, damming, and dumping interrupt the pristine conditions about nutrient loadings. Based on some findings, there are several recommendations for the strategic riverine management and planning on future hydro-ecological studies.

Keyword : river continuum, flood pulse, riparian wetland, riverine ecology