

GRAVELBARS IN LOW ORDER STREAMS: LOTIC AND TERRESTRIC FAUNA (RITRODAT-LUNZ STUDY AREA).

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ABSTRACT

Gravel bars are ecologically most important channel structures because of flood periodicities interacting with edaphic developments. Rare hydrologic events enhance or degrade the development of a bar towards an island. Ecological functions of gravel bars are: higher retention capacities in relation to overflowed channel areas, effects on the spatio/temporal instream temperature pattern, areas of contacts between stream- and terrestrial biocoenoses and enhanced instream primary production besides of the general structural effects on the hydraulic pattern. The relative importance of these functions depend on the developmental state of the bar. Composition and distribution of the stream fauna in the sediments of a bar and of the terrestrial biozooenosis on top of it are described for a highly developed gravel bar.

GRAVEL BARS IN LOW ORDER STREAMS: DISTRIBUTION OF ORGANIC MATTER (RITRODAT-LUNZ STUDY AREA)

Maria LEICHTFRIED

ABSTRACT

Gravel bars are influencing the ecology of streams in various ways. Edaphic developments are possible inside the bankfull lines, because they are overflowed only periodically. The studied bar is highly developed with willow stands at its downstream end and bare gravel at its upstream end. Underneath, throughflow is strong enough to accommodate the lotic fauna. Described is the spatial distribution of organic matter on the basis of organically bound carbon and nitrogen and protein concentrations. Only in willow stands, organic carbon concentrations are higher. This coincides with soil formation. Generally, organic matter contents are higher in the deeper, stream dominated sediment layers.

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