国土技術政策総合研究所資料
第 161 号 2004 年 1 月

Technical Note of NILIM
No.161 January 2004

礫床河川に繁茂する植生の洪水攪乱に対する応答、遷移および群落拡大の特性

―多摩川と千曲川の礫河原を対象として―

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Field Study on Characteristics of Response to Fluvial Processes Induced by Floods, Succession and Area Expansion of Riparian Plant Communities in Gravel Bed Rivers

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概要

礫河原上に繁茂する植生の洪水流による破壊に対する抵抗力、土砂の堆積能力、河原への侵入・遷移特性、群落面積の拡大・縮小速度を明らかにした。これらの洪水に対する応答特性に基づいた新たな植物群落の分類を行った。その分類から、河原の樹林化を引き起こすきっかけとなる土砂堆積を促進する植物群落を特定し、その応答特性をまとめた。

キーワード：河原、植生、洪水、地形変化、細粒土の堆積、群落遷移、群落の拡大速度、多摩川、千曲川

Synopsis

Belt transect survey on vegetation, substrate and bed elevation has been conducted on gravel bars in the Tama River and Chikuma River. Area mapping of plant communities by GPS has also been conducted since 1999 when the almost all plant communities on gravel bars were destructed. The Resistance to destruction by floods, accretion of fine sediment, succession process and area expansion rate of plan communities are analyzed. These characteristics result in a new classification of plant communities according to fluvial processes response induced by floods. The classification identifies the key plant communities that can change substrates gravelly to sandy suitable for woodland expansion.

Key Words : Gravel Bar, Riparian Vegetation, Flood, Geomorphological Change, Accretion of Fine Sediment, Plant Community Succession, Area Expansion rate of Plant Community, Tama River, Chikuma River

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