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## **Roles of Fine Sediment Transport in Riparian Habitat Changes in Gravel Bed Rivers**

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Although a large amount of fine sediment is supplied to an alluvial river, it had rarely been a target for the management of a gravel bed river for long. This was presumably because fine sediment was considered to mostly pass through a gravel bed reach without causing significant geomorphic impacts. However, recent research reveals that fine sediment is capable of playing important roles in riparian habitat formation and change. Its examples observed for Japanese gravel-bed rivers are the significant and monotonous expansion of stable vegetation areas, many of which are occupied by exotic species, and the accretion of riparian banks creating new ecotones triggered by forced channel widening. For those examples, changes in vegetation, substrate and channel shape in micro- and macro-scale were traced carefully together with hydrologic and hydraulic conditions experienced, and scenarios for the habitat changes observed were built. On the basis of the scenarios, simple but comprehensive simulation models have been developed, which enables identifying hydrologic, geomorphic and fine-sediment-supply conditions encouraging or discouraging the growth of stable vegetation and the accretion of new ecotones. In the talk, those results are introduced, and the possibility of building framework for managing a channel with respect to fine sediment control and riparian habitat preservation is discussed.