Geophysical Research Abstracts
Vol. 12, EGU2010-1137, 2010
EGU General Assembly 2010

A Hydro-Geomorphic Template for Assessing Ecological Changes below Dams

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Dams and impoundments have dramatic effects upon all elements of riverine ecosystems. Changes to the flow regime and sediment dynamics along the river downstream of a dam lead to adjustments of channel and floodplain morphology. In some cases these physical impacts can be manifest 100s of kilometres downstream. However, both the styles and rates of channel change can vary dramatically along a river, varying from reach to reach in relation to tributary junctions, geological controls on channel slope, changing bank resistence and the temporal sequence of flood events from the different sub-catchments of the drainage network. This paper provides a template to evaluate the spatial and temporal complexities of channel response to flow regulation below dams to aid interpretation of ecological changes in lotic and floodplain communities.