How successive phases of intervention have influenced the geomorphic recovery of the Cann River, East Gippsland

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# ABSTRACT

The Cann River, a sand bed river in the East Gippsland region of Vicotria, Australia, underwent significant changes in channel width, depth and slope following the removal of riparian vegetation and instream wood by European settlers (Brooks *et al*., 2003). The transformation in the morphology of the Cann River has placed the reach on a new geomorphic trajectory that makes a return to pre-disturbance form impossible. Since the 1970s, the impact of successive phases of interventions intended to limit the rate of channel incision and widening have been superimposed on the rivers ‘natural’ recovery trajectory.

This presentation uses analysis of repeat LiDAR surveys (captured in 2010, 2018 and 2023), 2D hydraulic modelling, vegetation mapping, high-resolution aerial imagery and site assessments to examine the interacting effects of sediment supply, vegetation establishment and the impact of historic interventions on the geomorphic trajectory of the Cann River. In particular, we focus on the impacts and unintended consequences that grade control structures, reintroduction of large wood and rock structures designed to halt bank erosion have had on the rates of channel change and implications for future management of the river.

**References**

Brooks, A. P., Brierley, G. J., & Millar, R. G. (2003). The long-term control of vegetation and woody debris on channel and flood-plain evolution: Insights from a paired catchment study in southeastern Australia. *Geomorphology*, 51(1-3), 7-29. https://doi.org/10.1016/S0169-555X(02)00323-9