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**Guiding principles for assessing geomorphic river condition: application of a framework in the Bega catchment, South Coast, New South Wales, Australia**

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**Abstract**

Based on principles from the ecological literature, a semi-quantitative framework to assess geomorphic river condition is outlined. Guiding principles that underlie the framework include the need to compare like-with-like, selection of appropriate 'natural' reference conditions for differing types of river, framed in terms of their natural range of variability, and measurement of parameters that are relevant for each type of river. Solid understanding of river character and behaviour along with assessment of capacity for adjustment, and appraisal of river evolution, including responses to human disturbance, are core components of the framework. Reference conditions are defined for each type of river using ergodic reasoning.

The procedure for assessing geomorphic river condition has three steps: (1) identify the type of river, termed River Style, and its capacity for adjustment within its valley setting; (2) assess river evolution as a basis for identifying irreversible geomorphic change and a 'natural' reference condition; (3) determine and explain the geomorphic condition of each reach in a catchment. Application of the procedure is demonstrated for reaches of an alluvial and a confined River Style in Bega catchment on the South Coast of New South Wales, Australia.

**Author Keywords:** Geomorphic river condition; Natural reference condition; River Styles; Bega River, Australia