River Styles

Case Study

Challenge

Prioritisation of river management actions is difficult when there are so many different types of rivers, different types of data and different agencies responsible.

Solution

NSW Government applied the River Styles Framework to fulfill the geomorphic component of their integrative River Condition Index (RCI).

Result

The RCI, incorporating Stages 1 and 2 of the River Styles Framework, helps to prioritise river management actions based on river condition and risk, harmonising catchment management planning with water sharing plans and establishing a rigourous and repeatable monitoring protocol.

River Condition Index for catchments in New South Wales.
Source: NSW State of the Environment Report 2018.

Prioritising river management actions based on the NSW River Condition Index (RCI)

As in many locations around the world, responsibility for river management in New South Wales (NSW), Australia, is shared between a range of different agencies, who use different approaches. This makes it difficult to plan, coordinate and evaluate river management activities.

When the NSW Government recognised the need to better align river management activities and to develop an integrated planning, management and monitoring protocol (as required by the National Water Initiative), they developed the River Condition Index (RCI). The RCI assesses river condition at the subcatchment scale to support bioregional planning and assessment.

The River Styles Framework features as a foundational component of the RCI, recognising geomorphology as setting the 'physical template' within which hydrological and ecological processes operate. River Styles data and insights contributed to assessment of river condition, river value and risk to river values, as a basis for strategic prioritisation of actions.

Stage 1	Stage 2	Stage 3	Stage 4
Catchment-wide baseline survey of river character, behaviour and pattern.	Catchment-framed assessment of river evolution and geomorphic condition.	Assessment of future trajectory of change and geomorphic recovery potential.	River management applications and implications.

Assessing river condition using Stage 2 the River Styles Framework involves development of conditional indicators that are appropriate to each river type (Stage 1). This meant that developers of the RCI could be confident that they were measuring the right variables in the right place, thereby providing a reliable and relevant signal about geomorphic river condition and values.

Assessment of risk to instream values uses indexes for geomorphic recovery potential and fragility (sensitivity to change) to determine the likelihood of a physical disturbance to instream values.

Developers of the RCI produced an action prioritisation tool based on the risk rating and RCI condition index rating. The action prioritisation tool adopts a strategic approach where conservation of reaches in better condition is prioritised.

To date, the RCI has been applied to develop management goals and strategies for monitoring, evaluation and reporting as part of catchment action planning and water sharing in NSW, working towards harmonisation of these functions. The RCI has also supported the statewide, triennial 'State of the Environment' reporting. The RCI – and River Styles – continue to be used by the NSW Department of Planning, Industry and Environment in their planning, implementation and monitoring of river management across NSW.

Learn more about the River Styles Framework at riverstyles.com