

# Capability Statement

## Waterway Assessment and Management



Water Technology is one of Australia's leading riverine and coastal consultancies. With experience spanning from riparian condition assessment to strategic planning and implementation of works, our team of qualified engineers and scientists integrate the many fields of critical importance to waterway management. Our specialist expertise in ecology, geomorphology, waterway design, hydrologic and hydraulic modelling and environmental hydraulics allows Water Technology to deliver complete and cost-effective project solutions for our clients.

### Overview

... of droughts and flooding rains ... Subject to immense pressures from natural and human influences, Australia's waterways are a critical element in the landscape. Providing a haven for wildlife, an ecological niche for plants, a playground for the community and a lifeline for agriculture and industry, everyone has a perspective on the management of our rivers. With many competing pressures, waterway management requires an integrated assessment and planning approach to ensure considered and sustainable outcomes are achieved for all stakeholders.

From the provision of environmental flows to sustain critical environmental assets, to assessment of waterway condition and implementation of works to address the causes and effects of stream degradation, specialist knowledge is critical. An understanding of the ecological condition, geomorphic processes, hydrologic and hydraulic character and threatening processes specific to each waterway must form the basis for informed management.



### Capabilities

- River health and ecological condition assessments
- Fluvial geomorphic and process investigations
- Strategic river health planning
- Geomorphic and hydraulic design of waterway works
- Hydrology and hydraulic investigations and modelling
- Design and construction support for waterway rehabilitation
- GIS theme capture and thematic mapping
- Identification of threats to river health
- Post fire and flood waterway assessments and design
- Environmental flows
- Fishway detailed design and specification
- Community consultation
- Ecological risk assessments
- Estuary management plans
- Monitoring program design and implementation



**WATER TECHNOLOGY**  
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

## Selected Projects

### Chowilla Surface Water Management Options Assessment

Client : South Australian Murray Darling Basin Natural Resource Management Board  
Surface water management options were identified for the Chowilla floodplain to improve the ecological health of this Living Murray Icon Site. Historical modifications to the hydrologic regime and hydraulic controls at the site have significantly impacted on floodplain health. Through field based assessments and topographic and hydraulic modelling, a suite of potential options to achieve enhanced localised flooding have been identified and comparatively assessed.



### Strategic Action Plans

Client : NSW DWE, Goulburn Broken CMA, North East CMA  
Water Technology has extensive experience in the preparation of strategic plans to guide the management of waterway health. Strategic plans provide an improved understanding of reach condition and the nature and scale of the environmental, social and economic assets and threats. The result of these plans is a series of prioritised management strategies and actions, often also including costed works plans that facilitate implementation of the works or development of funding applications for works programs.



### Snowy River Estuary Management

Client : East Gippsland CMA  
Water Technology has recently prepared a review of the management of the Snowy River Estuary and examined the future climate pressures that will impact on the long term management of the system. Using a Bayesian Decision Network, scenarios were presented to assist with the formulation of actions.

### Monitoring Environmental Flows

Client : Goulburn Broken CMA  
To monitor the impact of environmental flow releases, physical habitat was assessed at 10 sites on the Goulburn and Broken Rivers and Broken Creek in accordance with the Victorian Environmental Flows Monitoring and Assessment Program methodology. The project included locating and surveying cross-sectional surveys; installation of stage recorders; development of hydraulic models; qualitative assessment of habitat area and velocity; visual estimate of substrate composition; woody debris load assessment; and reporting of findings.

### River Diversions

Client : BMA Coal  
Water Technology are experienced in the design of diversions for streams impacted by open-cut mining operations. Diversions are designed to provide similar channel stability and ecological function to waterways in adjacent reaches. Hydraulic and geomorphic form templates are developed to satisfy ecological, regulatory and functional requirements of the diversion. Our personnel have extensive experience in the design and construction of stream diversions in a range of settings and can provide advice in all elements of geomorphic and hydraulic design for stream diversion works and construction.