

# Capability Statement

## Ecology



### Capabilities

- Flora, fauna, soil and significant tree inventory and survey
- Flora, fauna and habitat assessment and management, including Habitat Hectares assessment
- Assessment of ecological significance and threat status of species and communities
- 'Net Gain' assessment, negotiation and reporting, and Vegetation Management Plans
- Environmental Management Plans for threatened species, native vegetation, conservation reserves, native fauna and pest plant and animal
- Revegetation and ecosystem restoration design, management and implementation in terrestrial, riparian and wetland ecosystems
- Detailed vegetation survey of type (Ecological Vegetation Class), quality (Habitat Hectares) and extent, and GIS mapping
- Riparian & wetland condition assessment and analysis (ISC, IWC, RBA, SRA, TRCI)
- Waterway habitat assessment mapping and interpretation
- Strategic works plans including Waterway Health Activity Plans
- Riparian Crown land assessment and management
- Monitoring and adaptive management design
- Applied ecological research design and implementation, experimental design development and statistical analyses



### Overview

Native vegetation, and the fauna it supports, is recognised for the vital role it plays in the health of our environment. Water quality and overall river condition is inextricably reliant on healthy and robust riparian vegetation. Similarly, terrestrial ecosystems rely on healthy native vegetation, the retention of suitable fauna habitat and the control of threatening processes.

State legislation assists in the protection of native vegetation to prevent further loss of overall cover and quality. There is often pressure on ecosystems from the competing needs of urban development, rural production and recreation. Environmental monitoring and evaluation is becoming increasingly important in measuring success of rehabilitation works and the impacts of development activities.

Water Technology ecologists have extensive technical and practical expertise in flora, fauna and ecosystem assessment and management. Staff have strong regional industry relationships and work closely with clients to develop applied and practical ecological solutions to issues of water and land management. This expertise provides public and private sector clients with reliable and technically sound reporting.



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## Selected Projects

### Riparian Grazing Guidelines

Client: Department of Sustainability and Environment

A decision support tool has been developed to assist in the implementation or exclusion of stock grazing on riparian frontages, based on a 'state and transition' model. This project provides a tool that helps identify the vegetation condition 'state' and characteristic values of a riparian frontage, and provides effective ecological guidance to a field assessor on the likely impacts and appropriateness of grazing for individual vegetation states.

### Riparian Trend

Client: Goulburn Broken Catchment Management Authority

Three recognised vegetation condition assessment methods were applied to sites pre-works and annually post-works to identify trends and changes in various riparian and instream attributes at each site. This project also tests the sensitivity of each of the assessment methods to determine change as a result of riparian enhancement works. Results of this project assist the GBCMA in quantifying the ecological gain being achieved by implemented works and how these gains contribute to regional River Health Strategy targets.

### Kangaroo Count and Management

Client: Parks Victoria

The Reef Hills State Park is experiencing a period of significant decline in the quality of the vegetation, particularly shrub species. While some of this decline is attributable to drought, our previous work has established that fire exclusion and the level of macropod grazing was an equally strong influence. This project designed and implemented an appropriate methodology for counting macropod numbers and determining their habitat preferences. We have formulated recommendations for management in order to enhance native vegetation recruitment to improve the vegetation condition of the Park.

### Gravel Hill Quarry - Net Gain Report & Vegetation Management Plan

Client: Boral

This quarry expansion project involved a flora and fauna assessment of the site, quantification of vegetation losses, negotiation for the alteration of extraction boundaries to avoid and minimise losses, determination of 'Net Gain' targets and the development of a Vegetation Management Plan to meet offset requirements. Frequent liaison and negotiation with the quarry designers, client, landholder and referral authorities occurred throughout the project. This helped ensure all parties understood and agreed with the proposed actions and obligations and led to project approval combined with potentially significant ecological gains.

### Capital Works Monitoring

Client: Melbourne Water Corporation

Baseline condition monitoring was established at planned waterway works sites across the Port Phillip and Westernport Catchments. Follow up assessments will increase the understanding of factors that contribute to meeting the 2025 objective for waterways.

### Instream Habitat Mapping and Recommendations

Client: Mallee Catchment Management Authority (assessed in conjunction with MDFRC Mildura)

Vegetation and physical habitat (large wood) were mapped within the Lindsay River and Mullaroo Creek using high resolution side-scanning sonar and visual assessment. Wood loads and habitat values were mapped using GIS software, forming the basis for the development of recommendations for habitat management.

