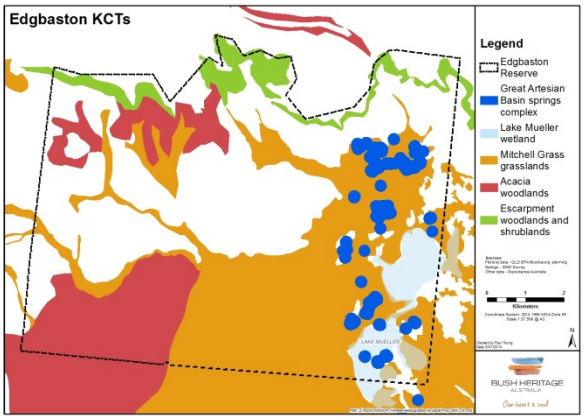
Edgbaston Reserve Scorecard

January 2014



Key Facts

Date acquired: 2008 **Size:** 8,074 ha

IBRA Bioregion: Desert Uplands and Mitchell Grass Downs

Traditional Owners: Iningai

Key Staff: Aquatic Ecologist: Adam Kerezsy; Healthy Landscape Manager: Steve Heggie; Ecologist: Murray Haseler.

Key Partners: Desert Channels Queensland; University of Queensland; Queensland Herbarium.

Ecosystem Diversity: Edgbaston protects a Great Artesian Basin spring complex that supports a diverse aquatic community with high endemism, including the endangered red-finned blue-eye (RFBE) and Edgbaston goby. The springs occur in a shallow basin dominated by a series of ephemeral lakes, the largest of which is Lake Mueller. Edgbaston also supports large expanses of Mitchell grass grasslands, eucalypt woodlands on the escarpment and acacia shrublands on the lower slopes and plains.

Goals and Objectives

Management Intent: IUCN Category IV – Protected Area managed for species and habitats.

Conservation Objectives: Increase number of springs occupied by red-finned blue-eye to 10 and Edgbaston goby to 15. Maintain populations of endemic spring organisms. Maintain or enhance ecological function of the Lake Mueller basin. Improve ecological function in Mitchell grass grasslands by reducing grazing pressure. Improve condition of escarpment woodlands from fair to good. Acacia woodlands have natural regeneration.

Key Management Strategies: Eradication and prevention of re-colonization of spings by *Gambusia holbrooki*; pig control; woody weed management; stray stock management; and fire management to prevent large bushfires.

Key Conservation Targets	Status & Trend	Confidence Level
Critically endangered fish: red-finned blue-eye & Edgb. goby	↗	
Artesian springs	–	
Lake Mueller wetland	–	
Mitchell Grass grasslands	↗	
Escarpment woodlands	↗	
Acacia woodlands	–	

Key Ecological Processes	Status & Trend	Confidence Level
Ecological function	↗	
Viability of key species	↗	
Functional communities	↗	
Natural disturbance regime	–	
Ecosystem resilience	?	

Key Threats * (* relative to time of acquisition)	Status & Trend	Persistence
Livestock grazing	↑	✓
Feral competitors – Gambusia	↗	$
Feral herbivores – stray cattle	↗	~
Feral herbivores – pigs	↑	$
Weeds – woody weeds, grasses	↘	$$
Uncontrolled bushfire	↗	$
Native herbivores	↘	$

Commentary

The first five years of management have focused on preventing the extinction of the RFBE. Gambusia eradication and RFBE re-location trials have increased the number occupied springs from four to six. Combined with captive breeding, continuation of these actions is required to secure the RFBE. The Edgbaston goby will receive increased attention in coming years. The endemic plants, *Eriocaulon aloefolium* and *E. giganteum*, are relatively stable. Perennial grass cover has increased across the conservation targets due to increased rainfall, removal of livestock and pig control. However, buffel grass cover also increased, presenting an ongoing management challenge, together with woody weed control and macropod management given large increases in kangaroo abundance.

Scorecard Description

Key Conservation Targets are the ecological entities (communities, species or species assemblages) within the landscape upon which Bush Heritage has chosen to focus conservation effort; they are the basis for goals, carrying out conservation actions, and measuring conservation effectiveness. Each property has around 4-6 targets. The Targets allow prioritization of effort and resources. The scorecard shows the latest assessment of the Status (condition) and Trend (change in condition) of each Target. The ratings are derived from measures against a number of Indicators which define the Viability of key ecological attributes of the Target. Further details of the key eco logical attributes, indicators and measures can be found in the Target Viability Table within Miradi. The Status and Trend symbols are defined below. The Confidence level reflects the extent and reliability of data available from which the ratings are derived.

Status Rating	Trend	Confidence Level
Excellent	Strong increase / improvement	Very High
Good	Mild Increase / improvement	High
Fair	Steady	Medium
Poor	Mild decrease / degrading	Low
Uncertain	Strong decrease/ rapidly degrading	Very Low
	Unknown/Uncertain	

Key Ecological Processes measures progress against the goals defined by the Ecological Outcomes Monitoring program.

- Maintain or restore **ecological function**. This goal refers to the biophysical processes that regulate the stocks and flows of water, nutrients and energy that sustain ecosystem productivity. Indicators for this process monitor ecological resource conservation, maintenance of refugia and source areas, and change in hydrological heath.
- Maintain or restore the **viability (and evolutionary potential) of key species**. This goal recognizes that the long-term persistence of native species is a key conservation objective but places greater emphasis on threatened, keystone or locally endemic species. Indicators for this process monitor population demographics such as abundance, density and population structure.
- Maintain or restore **functionally integrated communities**. This goal relates to managing the biophysical habitat to support community assemblages and trophic interactions that enable species to fulfill their functional roles. Indicators for this process monitor factors such a carrying capacity and changes in vegetation structure.
- Maintain or restore **natural disturbance regimes**. This goal refers to the frequency, intensity, duration, spatial heterogeneity and magnitude of natural disturbance events. Indicators for this process monitor factors such as fire regimes and hydrological cycles.
- Increase **ecosystem resilience**. Resilience refers to the ability of an ecosystem to recover following disturbance or shocks (natural or anthropogenic). Indicators for this process monitor time and extent of recovery in factors such as primary productivity, vegetation structure and composition, and faunal assemblages.

The scorecard shows the latest Status and recent Trend for each process, using the same symbols as above. The ratings are derived from analysis of measures taken during on-site surveys at pre-defined EOM sites against a range of indicators. The raw data is record against each site in the Properties database. The Status & Trend ratings represent a judgment made of relevant measures across all EOM sites on the property, irrespective of which Key Conservation Target they might be located in. It therefore gives a whole-of-property assessment, and is also comparable across properties.

Key Threats are identified for each target, and for the property as a whole, and are the focus of management actions. A rating system is used to assess each threat in terms of its scope, severity and permanence to derive an overall Status rating. The Trend rating is a judgment on the degree of change since the last status rating. The key ongoing threats that are the focus of management activities are listed for each property, along with any major threats that have been removed or controlled through Bush Heritage's actions. The removed threats were often the motivation for property acquisition (e.g. land clearing, pastoralism, logging) and the benefits from these actions accrue in perpetuity. The Persistence rating gives an indication of the on-going effort required to manage the threat.

Status Rating	Trend	Persistence level
Low	Strong increase / improvement	Permanently removed ✓
Medium	Mild Increase / improvement	Ongoing vigilance required ~
High	Steady	Ongoing investment required $
Very High	Mild decrease / degrading	Increased investment required $$
Uncertain	Strong decrease/ rapidly degrading	
	Unknown/Uncertain	