

PROJECT EXPERIENCE: CENTRAL (INLAND AND COASTAL) QUEENSLAND

Members of the EcoSmart Ecology team have been undertaking flora and fauna values within central Queensland (e.g. Bowen, Galilee, Surat Basins and Central Coast) for over a decade. They are familiar with the region's vegetation types and have experience with most of its threatened species. Having surveyed many coal mines throughout the area, they have a strong grounding in mining principles and mine culture (e.g. safety requirements). Selected projects with which members of the team have been involved are detailed below.

Clermont Coal Baseline and Targeted Microchiropteran Surveys, Clermont; 2001

Baseline surveys were required in order to characterise flora and fauna values for a Environmental Impact Study near Clermont. These baseline surveys included all standard vegetation, flora and fauna survey techniques, including systematic trapping for fauna species.

The surveys aimed to characterise vegetation communities, report resident plant and animal populations and detailed fauna habitats. The study was also required to assess the likely occurrence and distribution of threatened species.

The surveys located a higher than average diversity of insectivorous bats (microchiropteran bats), reflecting the abundance of hollows in local habitats. Suitable habitat and local records suggested that a number of threatened bat might occur, but none were detected during the baseline assessments. Consequently, a specific targeted survey for insectivorous bats was conducted using all known bat capture and survey methods. These surveys identified at least one of the possible threatened species, and suggested that a second was not likely to occur. These results significantly contributed to EIS reporting.

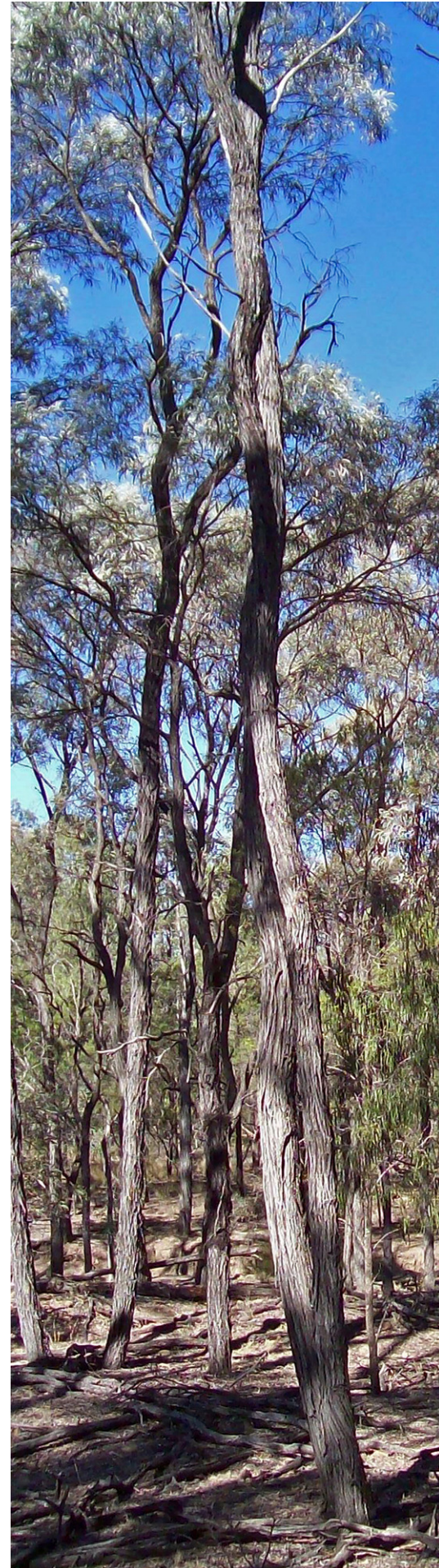
Following field investigations, potential impacts on existing values, including Endangered Regional Ecosystems, threatened plant, bird and mammal species, were assessed. A variety of mitigation measures were explored, including translocation (plant populations) and offsets where applicable.

The project required several meetings and ongoing negotiation with both State and Federal regulatory authorities.

Curragh North Environmental Studies, Blackwater; 2003

Environmental Impact Studies for a proposed coal mine required baseline flora and fauna surveys. Seasonal surveys using all standard methods were undertaken and located a number of significant values including areas of Endangered Brigalow, three Federally listed fauna species and a handful of State significant species. Two of these species, the Brigalow Scaly-foot and Ornamental Snake, were present along a small creekline intersected by the proposed haul road. This road had the potential to impact local populations if activities were not appropriately mitigated.

In order to ameliorate the potential impacts, a detailed fauna management plan was developed. The plan included a description of the existing values with particular reference to Matters of National Environmental Significance. Potential impacts were discussed and mitigation measures recommended based on each species behaviour and ecological traits. Mitigation measures considered both direct and indirect impacts such as vegetation loss, habitat and population fragmentation as well as invasion by exotic weeds and fauna. The plan included a strong monitoring component designed to detect the effectiveness of mitigation measures and population strength.



Goorganga floodplain seasonal surveys, Prosperine; 2007

A significant mining project was under investigation on the Goorganga floodplain south of Prosperine. The study area was very large in extent and included a vast number of vegetation types and habitats including areas of wetland, rainforest, riparian vegetation and eucalypt forest. The region was subject to heavy seasonal rainfall and the sensitive receiving environment required detailed characterisation in order to evaluate impacts that mining activities might impose.

Seasonal baseline surveys were designed to sample potentially significant habitats and required a strong desktop component to locate important ecosystems and habitats. The surveys also had to consider field logistics such as landholder liaison and access difficulties imposed when unexpected flooding occurred.

The surveys, which were conducted over a number of seasons, included repeated sampling and detailed habitat assessment. This resulted in the detection of a number of State significant values. These were reported within a detailed flora and fauna assessment document.

Millennium Offset Strategy and Gap Analysis, Moranbah; 2009

Proposed expansion activities of a coal mine near Moranbah required the removal of areas of Endangered Brigalow. While these patches of Brigalow were highly degraded, legislative requirements dictated that offset areas, consistent with the Queensland vegetation offset policies, were necessary. A plan was developed which outlined appropriate methods for the location of suitable offset areas. These methods included examination of historic and current vegetation maps, historic aerial photos as well as a variety of other GIS tools.

In addition, reporting of existing environmental values was required to accompany the Environmental Impact Study. While some previous environmental works had been conducted, it was unclear if these were sufficient to fulfil the Terms of Reference (ToR). A detailed gap analysis compliant with best practice methods compared Federal and State survey guidelines as well as the Project ToR. This analysis highlighted which, if any, further field investigations were required.

The gap analysis identified a number of habitats that required further assessment, as well as a several of fauna groups not adequately surveyed in previous assessments. These gaps were targeted in subsequent surveys, ensuring that work was not duplicated and that the final EIS reporting was sufficient for all regulatory standards.

Other Assessments

A long list of other flora and fauna assessments has been undertaken by EcoSmart Ecology staff over many years, some whilst under different employers. A small selection is listed below.

- Alpha Coal: seasonal fauna surveys (Galilee Basin), Alpha; 2009
- Sarum flora and fauna survey and assessment, Collinsville; 2008
- Carborough Downs: flora and fauna assessment, Moranbah; 2004
- Kestrel Coal flora and fauna assessment, Emerald; 2004
- Blair Athol Coal: flora monitoring, Clermont; 2003
- CH₄ Gas: flora and fauna assessment, Moranbah; 2002
- Broadlea: flora and fauna assessment, Glenden; 2001
- Burton Coal Mining Lease: targeted Squatter Pigeon surveys and assessment, Glenden; 2001

