

# Emu Swamp Dam

## TERRESTRIAL ECOLOGY - FIELD SURVEY RESULTS

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## Emu Swamp Dam

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## 1. Introduction

This report describes the terrestrial surveys undertaken in July and October 2013 and January 2014 by SKM to provide additional information for preparation of the Emu Swamp Dam Supplementary report. The need for additional information was identified after review of the public and government agency submissions received for the Emu Swamp Dam Environmental Impact Statement (EIS).

This report is structured as follows:

- Introduction, describing the study area and objectives
- Methodology, describing desktop assessment and field survey methods
- Results, summarising the desktop and field survey results and including mapping display of results
- Discussion of results

### 1.1 Study Area

The Project is located approximately 15 km south west of Stanthorpe within the Stanthorpe Plateau sub-bioregion of the New England Tableland bioregion at the upper part of the Severn River catchment.

Geology of the study area consists of an extensive granite complex, the New England Batholith. Landform elements within the study area include loamy granite plains, alluvial drainage lines, and granite slopes and knolls.

Vegetation in the area includes remnant and regrowth native woodlands and shrublands as well as pasture areas dominated by exotic grasses. Native vegetation has been previously impacted by clearing for agriculture and rural-residential land use as well as by fire and flood events.

### 1.2 Study Objectives

Objectives of the terrestrial flora study are to:

- Identify the extent of the White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands Critically Endangered Threatened Ecological Community (Box-Gum Grassy Woodland TEC) in the study area and downstream of the proposed dam to put into context the impact on this community that would result from the Emu Swamp Dam Project
- Determine the population size and locations of *Melaleuca williamsii* (syn. *Callistemon pungens*) in the study area to enable quantification of the Project's impact on the local population of this species
- Collect BioCondition data to determine the condition of the vegetation/habitat to be impacted and to provide input data to establish condition values for Commonwealth and State offsets.

## 2. Methodology

### 2.1 Desktop assessment

#### 2.1.1 Critically Endangered Threatened Ecological Community (TEC)

The Box-Gum Grassy Woodland is listed as a critically endangered TEC under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The listing advice for this community provides a list of Regional Ecosystems (REs) that may contain Box-Gum Grassy Woodland (TSSC, 2006). REs that were investigated from the study area that may contain the Box-Gum Grassy Woodland are listed below:

- RE 13.3.1 - *Eucalyptus blakelyi* woodland on alluvial plains
- RE 13.3.4 - *Eucalyptus conica*, *E. microcarpa*, *E. melliodora* woodland on alluvial plains
- RE 13.11.8 - *Eucalyptus melliodora* and/or *Eucalyptus microcarpa*/ *E. moluccana* woodland on metamorphics
- RE 13.12.8 - *Eucalyptus melliodora* and/or *E. moluccana*/ *E. microcarpa* and/or *E. conica* woodland on igneous rocks
- RE 13.12.9 - *Eucalyptus blakelyi* and/or *E. caliginosa* woodland to open forest on igneous rocks

Spatial analysis was used to identify vegetation in the study area, including along the Severn River downstream to Accommodation Creek, mapped by DNRM (2011) as containing the REs listed above.

Vegetation mapping undertaken by 3D Environmental (2007) in the Project impact areas was also reviewed to determine the location and extent of these REs in the FSL and pipeline alignments.

#### 2.1.2 Threatened Flora – *Melaleuca williamsii*

The following information sources were reviewed to determine where suitable habitat exists for *M. williamsii* in the study area:

- Terrestrial Flora Baseline Study, Emu Swamp Dam Project (3D Environmental, 2007)
- Australia's Virtual Herbarium (CHAH, 2013)
- DNRM vegetation mapping (Version 6.1) (regional ecosystems, high value regrowth, essential habitat and pre-clearing)
- The regional ecosystem description database (REDD) (DNRM, 2011)

In addition to review of the above data sources, specimens of *M. williamsii* held at the Queensland Herbarium were examined by SKM ecologists to develop familiarity with the species' characteristics and to note habitat information recorded on the specimen labels.

#### 2.1.3 Endangered and Of Concern Vegetation

RE and high value regrowth (HVR) vegetation mapping were reviewed to determine the extent and location of endangered and of concern vegetation that would be impacted by the Project. This mapping was reviewed to assist planning survey sites and to quantify downstream impacts.

#### 2.1.4 Site Selection

Survey sites were selected based on meeting the three major objectives of the survey. Survey sites included:

- 100 sites in remnant and HVR vegetation that contain regional ecosystems that are listed as potentially containing Box-Gum Grassy Woodland (98 sites within the Stanthorpe Plateau sub-bioregion and two sites within the adjacent Nandewar Northern sub-bioregion).
- 30 sites within habitat suitable for *M. williamsii*, based on vegetation mapping and known habitat characteristics.
- 28 BioCondition sites covering each endangered or of concern RE impacted by the Project as well as REs that provide habitat for threatened species.

A total of 123 sites were selected at which different combinations of the above objectives were completed. Methods are described in **Section 2.2.2** below.

## 2.2 Field Surveys

### 2.2.1 Scientific License

The field survey was undertaken in accordance with SKM's Scientific Purposes Permit number WISP10848512 issued by the Department of Environment and Heritage Protection (DEHP) under *S12(E) Nature Conservation (Administration) Regulation 2006*, valid from 1 March 2012 to 28 February 2017.

### 2.2.2 Methodology

Field methods are described briefly below.

#### Box-Gum Grassy Woodland Assessment

The listing advice for this community (TSSC, 2006) provides condition criteria to assess Box-Gum Grassy Woodland vegetation. A flowchart (DEH, 2006) based on these criteria was used to assess patches of remnant and regrowth vegetation in the field. The flowchart uses characteristics such as overstorey species, proportion of native understorey, patch size and evidence of recruitment to determine if the vegetation is the listed ecological community. **Figure 2-1** below shows the flowchart used in the field.

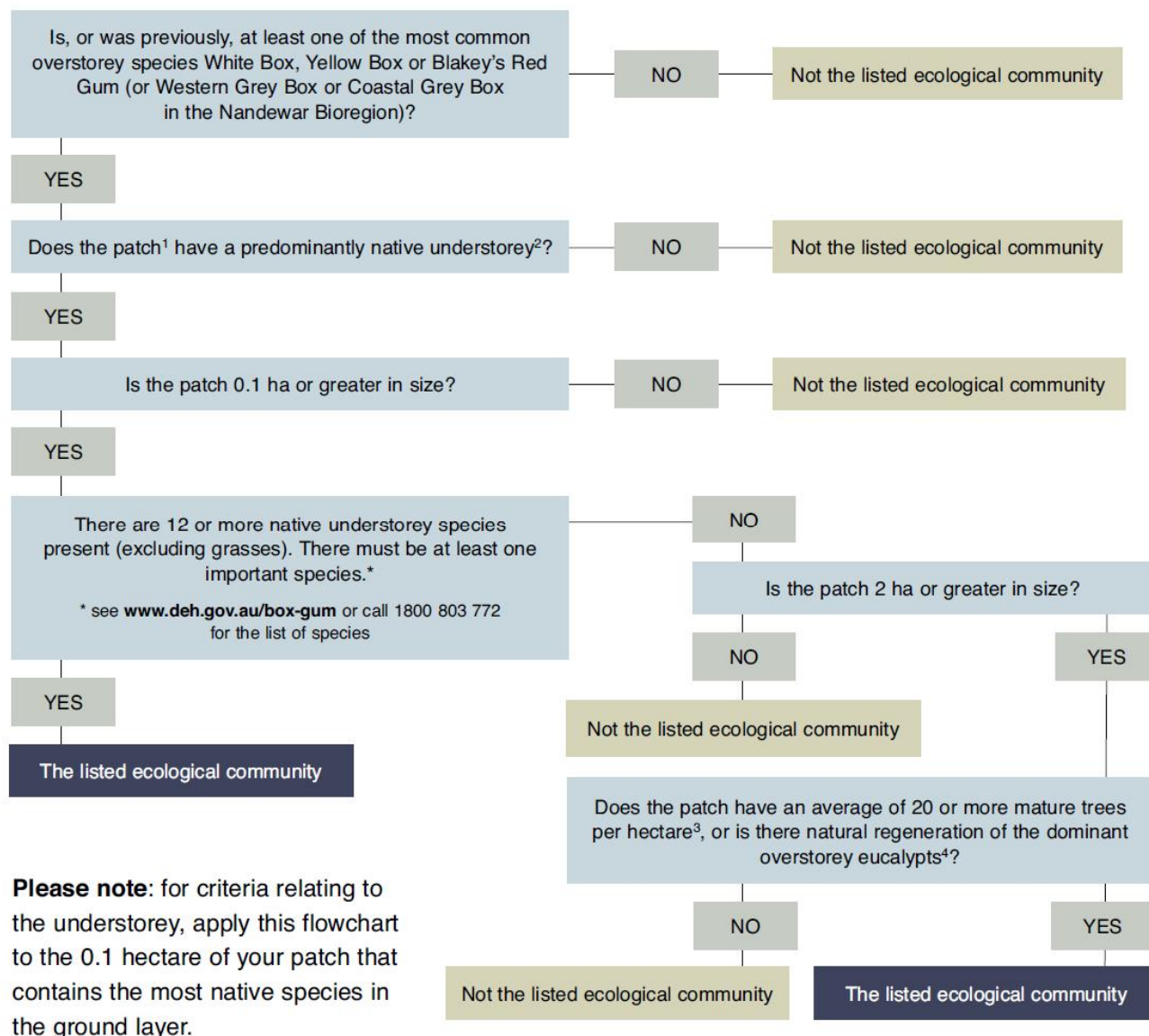


Figure 2-1 : Box-Gum Grassy Woodland and Derived Grassland flow chart (DEH, 2006)

### *Melaleuca williamsii*

Random meanders were undertaken at each survey site. This involved searching suitable habitat for a minimum of 30 minutes on foot by two ecologists.

### BioCondition

BioCondition sites were surveyed in accordance with the BioCondition assessment manual Version 2.1 (Eyre *et al.*, 2011a).

Field surveys were undertaken during winter over a three week period from 1 to 19 July 2013.



### 2.2.3 Field survey 1 (July 2013)

Field surveys were undertaken during winter over a three week period from 1 to 19 July 2013. This survey was undertaken between 1-5, 8-12 and 15-19 July 2013.

Access to survey sites was not possible in some instances where land holders did not give permission to enter properties. Where land access was not provided effort was made to find alternative sites. A total of 81 Box-Gum Grassy Woodland sites, 25 *M. williamsii* random meanders and 26 BioCondition sites were completed.

### 2.2.4 Field survey 2 (November 2013)

An additional survey for *M. williamsii* was undertaken between 28-30 October 2013 during the flowering period to confirm the identification of *M. williamsii* at existing sites, and to identify additional sites that provide suitable habitat for *M. williamsii* as potential translocation sites. Random meander searches were undertaken at five survey sites, involving searching suitable habitat for a minimum of 30 minutes on foot by two ecologists. Flowering samples of *M. williamsii* from the survey sites were sent to the Queensland Herbarium to confirm identification. Two BioCondition sites were also completed.

### 2.2.5 Field Survey 3 (January 2014)

An additional survey for potential Box-Gum Grassy Woodland offset sites was undertaken from 29-31 January 2013. The purpose of this survey was to investigate additional sites that could be used as offsets for Box-Gum Woodlands disturbed by the Project. During field survey 3, 19 sites were visited (13 in the Stanthorpe Plateau sub-bioregion and six in the Nandewar Northern sub-bioregion) and surveyed against the Box-Gum Grassy Woodland condition criteria, as described in **Section 2.2.2**.



### 3. Desktop Results

#### 3.1 Box-Gum Grassy Woodland

The terrestrial flora mapping prepared for the Project EIS (3D Environmental, 2007) shows 71.55 ha of Box-Gum Grassy Woodland would be directly inundated in the water storage area with an additional impact of 11.47 ha along the urban and irrigation pipelines and 0.74 ha along the Stalling Lane realignment.

Spatial analysis using DNRM remnant vegetation mapping indicated that there is 8,286 ha of vegetation in the Stanthorpe Plateau sub-bioregion that could potentially contain the Box-Gum Grassy Woodland community. This is the total area of mapped remnant vegetation containing:

- RE 13.3.1 - *Eucalyptus blakelyi* woodland on alluvial plains
- RE 13.3.4 - *Eucalyptus conica*, *E. microcarpa*, *E. melliodora* woodland on alluvial plains
- RE 13.11.8 - *Eucalyptus melliodora* and/or *Eucalyptus microcarpa*/ *E. moluccana* woodland on metamorphics
- RE 13.12.8 - *Eucalyptus melliodora* and/or *E. moluccana*/ *E. microcarpa* and/or *E. conica* woodland on igneous rocks
- RE 13.12.9 - *Eucalyptus blakelyi* and/or *E. caliginosa* woodland to open forest on igneous rocks

The same analysis was used to calculate that within 5 km of the FSL there are 1,853 ha of remnant vegetation that could potentially contain Box-Gum Grassy Woodland.

Downstream of the proposed dam to Accommodation Creek, the Department of Natural Resources and Mines (DNRM) RE mapping shows the Severn River is fringed by Endangered REs 13.3.1, 13.3.1x1, 13.12.8 and 13.12.9. Of these, REs 13.3.1, 13.12.8 and 13.12.9 may contain Box-Gum Grassy Woodland.

### 3.2 *Melaleuca williamsii*

The Emu Swamp EIS terrestrial flora surveys (3D Environmental, 2007) found seven *M. williamsii* in the FSL, four (4) in the Stalling Lane realignment, four (4) in the urban pipeline corridor and three (3) in the irrigation pipeline corridor. Other individuals were found outside the Project impact areas, including one next to Teale Road (10 km north of Stanthorpe), one (1) 80 m to the west off the New England Highway south of Booth Lane and two (2) approximately 100 m upstream of the FSL. Plants were found in remnant and non-remnant vegetation, including REs 13.3.1, 13.3.1x1, 13.12.8, 13.12.2 and 13.12.6.

Australia's Virtual Herbarium (AVH) lists 131 records for *M. williamsii* in the New England bioregion with a cluster of these records occurring in the Stanthorpe Plateau sub-bioregion. The AVH incorporates specimen records from Australia's major herbaria.

The REDD lists RE 13.3.1 as suitable habitat for *M. williamsii*. This RE is described as '*Eucalyptus blakelyi* grassy woodland or open-forest +/- *E. conica* +/- *E. bridgesiana* +/- *E. melliodora* on Cainozoic alluvial plains'.

The description of habitat of *M. williamsii* on specimens held by the Queensland Herbarium recorded the species growing in habitat characterised by rocky granite slabs and proximity to waterways. Soils included sandy and gravelly alluvium. Vegetation associated with *M. williamsii* was recorded as riparian woodlands and shrublands with *Leptospermum* and *Acacia* species.

Essential habitat factors for *M. williamsii* are described in the essential habitat database (DNRM, 2013) as:

- RE 12.12.14 or 13.3.1 (RE's are a mandatory essential habitat factor)
- Open forest of *Corymbia gummifera* and *Eucalyptus umbra*; riparian woodland/shrubland
- 300 to 800 m altitude
- Gravelly alluvium soils
- Rocky watercourse or river bank

## 4. Field Survey Results

### 4.1 Box-Gum Grassy Woodland Critically Endangered Ecological Community

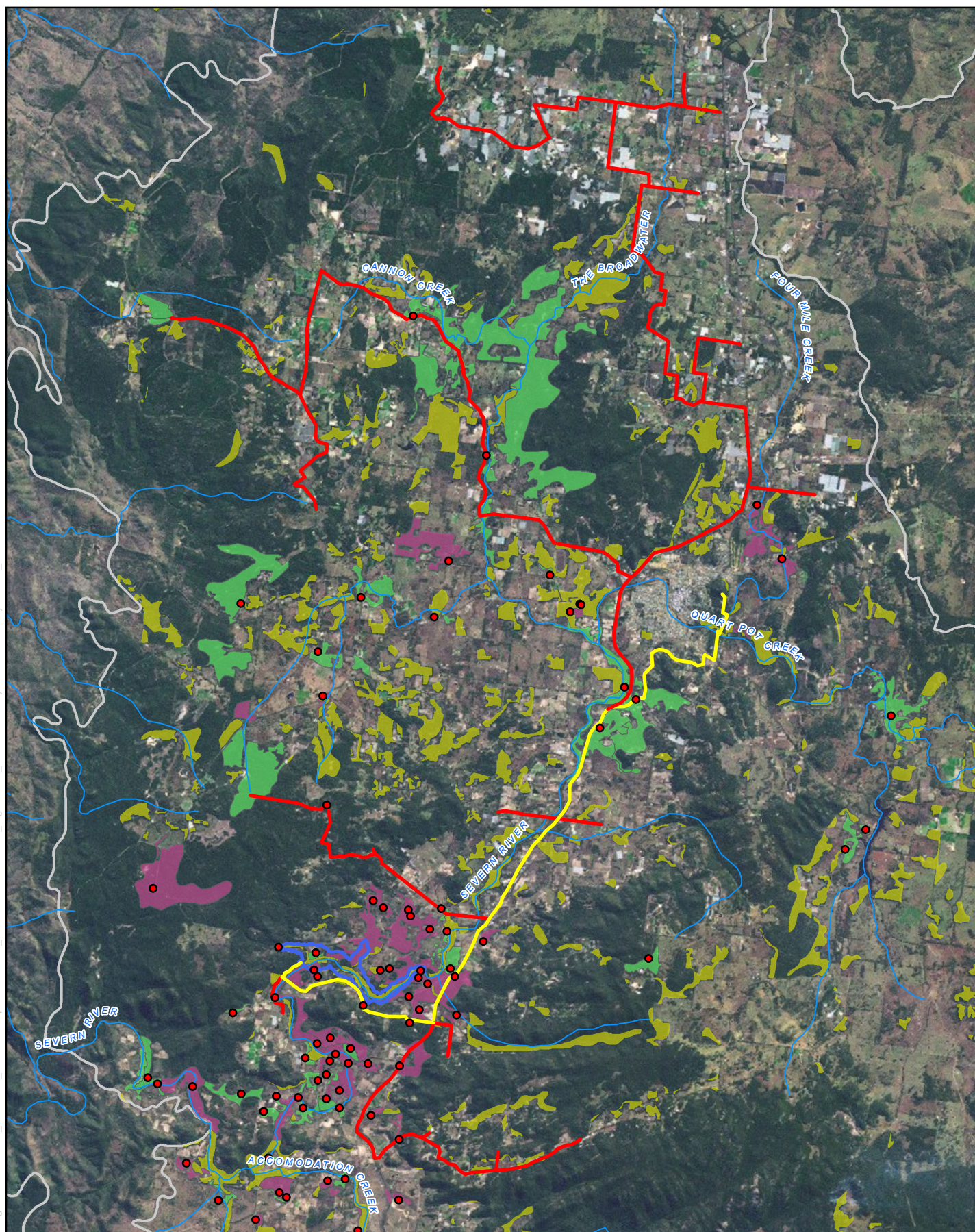
The Box-Gum Grassy Woodland community flow chart was used to identify if vegetation met the EPBC listing criteria at 100 individual sites (81 during field survey 1 and 19 during field survey 3) in the study area in both remnant and regrowth vegetation. Out of the 100 survey sites, 50 were found to contain vegetation that met the criteria for the EPBC listed community. **Appendix A** shows the results for each of the survey points. Much of the vegetation along the Severn River between the FSL and Accommodation Creek was found to contain the Box-Gum Grassy Woodland community. Some patches of vegetation were excluded from the community due to weed dominance in the ground cover, or due to absence of characteristic canopy species. Dominant canopy species in these instances included Rough Barked Apple (*Angophora floribunda*) and/or Apple Box (*E. bridgesiana*).

Patches identified as containing vegetation that fit the EPBC criteria are shown on **Figure 4-1**. The total area of vegetation ground-truthed was 5,100 ha. Approximately 2,225 ha of this vegetation contained the listed Box-Gum Grassy Woodland (44% of the vegetation surveyed). The area of ground-truthed vegetation occurs in both the Stanthorpe Plateau sub-bioregion (1,611 ha) and the Nandewar Northern Complex sub-bioregion (614 ha). Area calculations were based on the assumption that where field survey results indicated the listed community was present, the entire patch in which the survey point was located met the criteria. In instances where the field survey indicated different results in the same patch, the patch was split at an equal distance between the survey points. 3D Environmental vegetation mapping (3D Environmental, 2007) was used as a base map for areas within the FSL and pipelines. RE and HVR (DNRM, 2011) mapping were used as a base map for the areas outside the FSL and pipelines (**Figure 4-1**).

An additional 5,073 ha of remnant vegetation that could potentially contain the EPBC listed community within the Stanthorpe Plateau sub-bioregion is shown on **Figure 4-1**. This is remnant vegetation containing REs 13.3.1, 13.11.8, 13.12.8 and 13.12.9 that was not able to be ground truthed due to time constraints. Less than half (44%) of the vegetation surveyed contained the listed community. Conservatively assuming 40% of the potential Box-gum Grassy Woodland (2,672 ha) meets the EPBC criteria there is a further 2,029 ha of this community. It is estimated that approximately 3,640 ha of Box-gum Grassy Woodland is present [1,611 ha (confirmed) + 2,029 ha (potential)] in the in the Stanthorpe Plateau sub-bioregion.

**Plate 4-1** shows vegetation identified during field surveys as containing the Box-Gum Grassy Woodland.



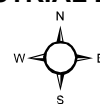


## LEGEND

- Box-gum Grassy Woodland survey sites
- Watercourse
- Urban Pipeline
- Irrigation Pipeline
- Stanthorpe Plateau Sub-bioregion
- Full Supply Level (738m AHD)

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- Box-gum Grassy Woodlands**
- EPBC community confirmed
  - EPBC community not present
  - EPBC community presence not confirmed



0 1 2 3 4  
Kilometres

Scale - 1:150,000

Projection: GDA94 MGA56

**Figure 4-1**

**Box-gum Grassy Woodland  
Survey Results**







Plate 4-1 : Box-Gum Grassy Woodland, dominated by Blakely's Red Gum (meets EPBC criteria)

## 4.2 Targeted *Melaleuca williamsii* surveys

Targeted searches for *M. williamsii* were undertaken along waterways and a collection of samples made within each patch of *M. williamsii*.

*Melaleuca williamsii* was identified in the field by SKM ecologists and samples taken in accordance with SKM's Scientific Purposes Permit. Plant samples collected in July were sent to a senior botanist in NSW (Tony Rodd) who identified the species as *M. williamsii* subsp. *fletcheri*. Flowering samples collected in October 2013 were sent to the Queensland Herbarium who also identified the species as *M. williamsii* subsp. *fletcheri*. The coordinates of *M. williamsii* records from these surveys are listed in **Appendix B**. A flowering specimen of *M. williamsii* found outside the Project impact area is shown in **Plate 4-2**.

SKM field survey 1 located a total of 287 *M. williamsii*, with multiple plants at each of the locations shown on **Figure 4-2**. 38 plants were recorded in the FSL, and 249 plants were found outside Project impact areas.

SKM field survey 2 recorded an additional 110 plants outside the Project impact areas. Five new locations were identified. Additional *M. williamsii* locations are shown on **Figure 4-2**.

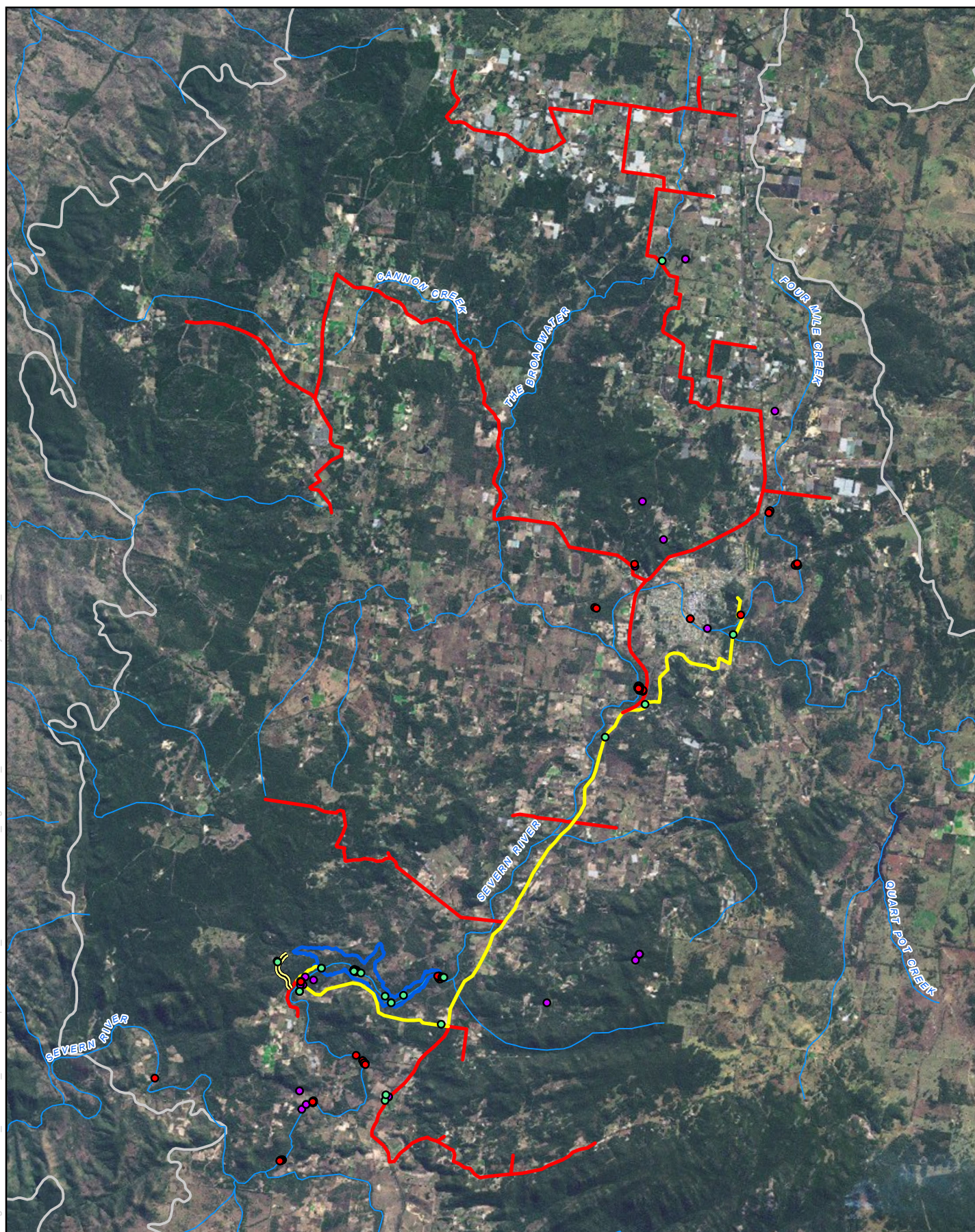
Based on SKM and 3D Environmental survey data, a total of 56 *M. williamsii* are known to be located within Project impact areas (**Table 4-1**).

Table 4-1 *Melaleuca williamsii* locations

Location	Source	Number of <i>M. williamsii</i> plants
FSL	SKM	38
FSL	3D Environmental	7
Stalling Lane	3D Environmental	4
Urban pipeline	3D Environmental	4
Irrigation pipeline	3D Environmental	3
<b>Total</b>		<b>56</b>

*Melaleuca williamsii* was consistently found in association with granite slabs and boulders near water in REs 13.3.1, 13.3.1x1 and occasionally in RE 13.12.6.

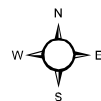




#### LEGEND

- *Melaleuca williamsii* (SKM)
- *Melaleuca williamsii* (3D Environmental)
- *Melaleuca williamsii* (database) (Atlas of Living Australia 2014)
- Watercourse
- Urban Pipeline
- Irrigation Pipeline
- Stalling Lane Access
- Stanthorpe Plateau Sub-Bioregion
- Full Supply Level (738m AHD)

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0 1 2 3 4  
Kilometres

Scale - 1:150,000

Projection: GDA94 MGA56

Figure 4-2

*Melaleuca williamsii* Database  
Records and Field Survey Results



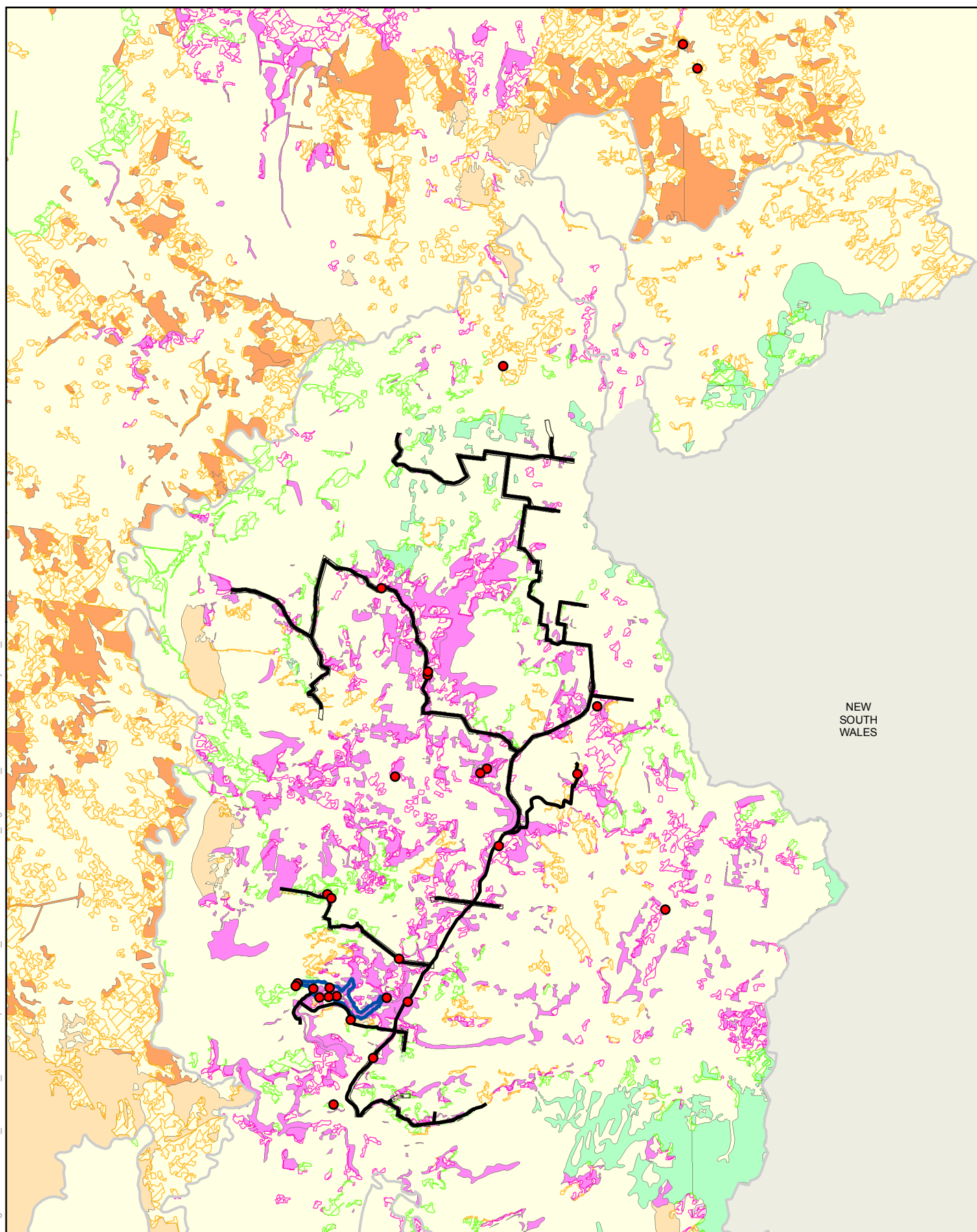




Plate 4-2 *Melaleuca williamsii* at Severn River off New England Highway, south of Stanthorpe

#### 4.3 BioCondition survey

BioCondition surveys were undertaken at 28 sites, collecting condition data from the following impacted REs: 13.3.1, 13.11.8, 13.12.2, 13.12.5, 13.12.6, 13.12.8, and 13.12.9. **Figure 4-3** shows BioCondition survey locations. Site based BioCondition scores are summarised in **Appendix C**.



NEW  
SOUTH  
WALES

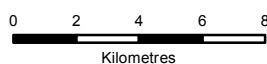
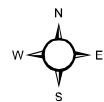
#### LEGEND

- BioCondition Sites
- Proposed Pipeline Routes
- Stanthorpe Plateau sub-bioregion
- Full Supply Level (738m AHD)
- High Value Regrowth mapping (DNRM)**
  - Containing Endangered regional ecosystems
  - Containing Of Concern regional ecosystems
  - Containing Least Concern regional ecosystems

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##### Regional Ecosystem mapping (DNRM)

- Endangered REs (dominant)
- Endangered REs (sub-dominant)
- Of Concern REs (dominant)
- Of Concern REs (sub-dominant)
- Least Concern REs
- Non-remnant



Scale - 1:240,000

Projection: GDA94 MGA56

Figure 4-3

BioCondition Survey Sites

#### 4.4 Weeds

Several invasive weeds species were recorded through the study area. The most extensive and widespread of these was African Lovegrass (*Eragrostis curvula*). The density of this species meant that several areas of vegetation that were predicted to contain Box-Gum Grassy Woodland community did not meet the listing criteria due to dominance of this weed in the ground cover.

Whisky Grass (*Andropogon virginicus*) was also extensive along roadsides and disturbed areas, although this species was less prolific in wooded areas.

Honeysuckle (*Lonicera japonica*) was observed along most waterways in varying density. This species occurred within the same habitat as *M. williamsii*.

## 5. Discussion

### 5.1 Box-Gum Grassy Woodland

Ground truthing of the Box-Gum Grassy Woodland community in the study area was completed over a period of three weeks of surveys in July 2013, three days in October 2013 and three days in January 2014.

Just under half (44%) of the vegetation that was surveyed contained the listed community. Conservatively, if it is assumed that 40% of the non-ground truthed vegetation in the study area (mapped as potentially containing the listed community) also supports vegetation that meets the EPBC criteria, then this means there is potentially 3,640 ha in the study area. Current estimates indicate that a total of 405,000 ha of the ecological community in various conditions remain (Australian Government, 2007). As such, the extent of the community within the Stanthorpe Plateau sub-bioregion represents less than 1% of the total remaining extent of Box-Gum Grassy Woodland and the impacted area of 83.76 ha is approximately 2.3% of the community within the sub-bioregion.

The stretch of the Severn River from the FSL downstream to Accommodation Creek runs through vegetation that was identified by the desktop mapping review as containing REs that form part of the Box-Gum Grassy Woodland community. Field surveys confirmed that approximately 6.6 km of the Severn River runs through the listed community.

Field observations indicated that much of the native vegetation in the study area had been impacted by fires and as a result was dominated in areas by shrubby regenerating *Callitris* and *Leptospermum* species. Vegetation communities with a continuous shrub layer of more than 30% cover are excluded from the listed ecological community, as they are considered to be shrubby woodland and do not constitute Box-Gum Grassy Woodland (DEH 2006).

### 5.2 *Melaleuca williamsii*

Targeted searches for *M. williamsii* were undertaken within a sample of the potential habitat identified by desktop assessment of mapping and previous records. Based on field results, approximately 10% of the known occurrences of *M. williamsii* in the region are located within the proposed dam FSL.

Where this species occurs along the pipelines or Stalling Lane access, direct impacts to individual plants may be avoided by altering the alignment of the construction corridor.

### 5.3 BioCondition survey

BioCondition data was collected for all REs occurring within the FSL and pipeline corridors. These scores have been used to establish condition values for the EPBC offsets calculator.

## References

Australian Government (2007) Environmental Stewardship Program – Fact Sheet: Box-Gum Grassy Woodland. Caring for our Country Funding Website, [www.nrm.gov.au/stewardship/pubs/boxgum-factsheet.pdf](http://www.nrm.gov.au/stewardship/pubs/boxgum-factsheet.pdf)

Australian Government Department of Environment and Heritage (DEH) (2006). EPBC Policy statement, White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands. Accessed online at <http://www.environment.gov.au/epbc/publications/box-gum.html>

Department of Natural Resources and Mines (DNRM) (2011). Vegetation Management Act regional ecosystems vers 6.1, Brigalow belt and New England. State of Queensland (Department of Natural Resources and Mines).

Department of Natural Resources and Mines (DNRM) (2013). Essential habitat database Version 3.1. Accessed online 22/7/13 at <http://www.ehp.qld.gov.au/ecosystems/biodiversity/regional-ecosystems/maps/index.php>

Eyre, T.J., Kelly, A.L., Neldner, V.J., Wilson, B.A., Ferguson, D.J., Laidlaw, M.J. and Franks, A.J. (2011a). *BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland. Assessment Manual. Version 2.1.* Department of Environment and Resource Management (DERM), Biodiversity and Ecosystem Sciences, Brisbane.

Eyre, T.J., Kelly, A.L., and Neldner, V.J. (2011). Method for the Establishment and Survey of Reference Sites for BioCondition. Version 2.0. Department of Environment and Resource Management (DERM), Biodiversity and Ecological Sciences Unit, Brisbane.

The Council of Heads of Australasian Herbaria (CHAH) (2013) Australia's Virtual Herbarium. <http://avh.chah.org.au>. [Accessed 6/5/2013].

3D Environmental (2007) Terrestrial Flora Baseline Study, Emu Swamp Dam Project Severn River, Queensland. Unpublished report for Southern Downs Regional Council.

Threatened Species Scientific Committee (TSSC) (2006) Advice to the Minister for the Environment and Heritage from the Threatened Species Scientific Committee on Amendments to the List of Ecological Communities under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Accessed online at <http://www.environment.gov.au/biodiversity/threatened/communities/box-gum.html>

## Appendix A. Box-Gum Woodland survey results



## Emu Swamp Dam Box - Gum Grassy Woodlands and Derived Grasslands checklists

Site	Field ID	Project Location	Veg.	RE	Zone	Lat.	Long.	Overstorey species	Native ground layer	Understorey species	Patch > 2 ha	Density / regeneration	Community	Dominant canopy species
010713 - 1	30	Non-impact	Rem.	13.12.8/13.12.9	56	-28.763	151.857	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
010713 - 2	1	Pipeline	Rem.	13.12.9	56	-28.757	151.960	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus melliodora</i>
020713-2	90	FSL	HVR	13.3.1	56	-28.747	151.815	NO						
020713-3	55	Non-impact	HVR	13.12.8/13.12.9	56	-28.753	151.845	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
020713-4	31	Non-impact	Rem.	13.12.8/13.12.9	56	-28.753	151.848	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i> and <i>Eucalyptus melliodora</i>
020713-5	43	Non-impact	Rem.	13.3.1	56	-28.773	151.836	NO						<i>Eucalyptus bridgesiana</i>
020713-6	24	Non-impact	Rem.	13.3.1	56	-28.777	151.836	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
020713-7	25	Non-impact	HVR	13.12.8/13.12.9	56	-28.777	151.841	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
020713-8	32	Non-impact	HVR	13.12.8/13.12.9	56	-28.791	151.842	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
030713-1	3	Non-impact	HVR	11.3.1	56	-28.784	151.833	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i> and <i>Eucalyptus melliodora</i>
030713-3	6	Non-impact	Rem.	13.12.8/13.12.9	56	-28.786	151.829	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i> and <i>Eucalyptus melliodora</i>
030713-4	10	Non-impact	HVR	13.12.8/13.12.9	56	-28.786	151.814	YES	NO					<i>Eucalyptus blakelyi</i>
030713-14	14	Non-impact	Rem.	13.12.8/13.12.9	56	-28.790	151.810	NO						<i>Callitris</i> sp.
030713-5	13	Non-impact	Rem.	13.12.9/13.12.8	56	-28.785	151.804	NO						<i>Angophora floribunda</i> , <i>Callitris</i> sp. and <i>Eucalyptus</i> sp. (stringybark)
030713-6	9	Non-impact	Rem.	13.3.1	56	-28.783	151.789	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
030713-7	40	Non-impact	HVR	13.3.1/13.3.4	56	-28.803	151.787	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
030713-8	65	Non-impact	Rem.	13.12.9/13.12.8	56	-28.818	151.808	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
030713-9	15	Non-impact	Rem.	13.12.9/13.12.8	56	-28.811	151.815	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
030713-10	17	Non-impact	HVR	13.12.9/13.12.8	56	-28.812	151.817	NO						<i>Callitris</i> sp. and <i>Eucalyptus bridgesiana</i>
030713-11	35	Non-impact	Rem.	13.12.9/13.12.8	56	-28.808	151.829	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus albens</i> and <i>Eucalyptus blakelyi</i>
030713-12a	36	Non-impact	HVR	13.3.4/13.3.1	56	-28.807	151.834	NO						<i>Eucalyptus conica</i>
030713-12	19	Non-impact	HVR	13.3.1	56	-28.777	151.830	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
030713-13	21	Non-impact	Rem.	13.3.1	56	-28.775	151.832	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
040713-3	89	FSL	HVR	13.12.8/13.12.9	56	-28.762	151.840	NO						<i>Angophora floribunda</i>
040713-4	46	Non-impact	Rem.	13.12.9/13.12.8	56	-28.770	151.830	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
040713-5	23	Non-impact	Rem.	13.12.8/13.12.9	56	-28.772	151.826	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
040713-6	29	Non-impact	Rem.	13.12.8/13.12.9	56	-28.760	151.854	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i> and <i>Eucalyptus melliodora</i>
040713-7	34	Non-impact	Rem.	13.12.8/13.12.9	56	-28.757	151.859	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
040713-8	33	Non-impact	3D	13.3.1	56	-28.760	151.814	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
040713-8a	22	Non-impact	HVR	13.12.9/13.12.8	56	-28.776	151.823	YES	NO					<i>Eucalyptus blakelyi</i>
040713-9	7	Non-impact	HVR	13.12.9/13.12.8	56	-28.782	151.827	NO						<i>Callitris</i> sp.
040713-10	4	Non-impact	HVR	13.12.9/13.12.8	56	-28.780	151.829	NO						<i>Angophora floribunda</i>



## Emu Swamp Dam Box - Gum Grassy Woodlands and Derived Grasslands checklists

Site	Field ID	Project Location	Veg.	RE	Zone	Lat.	Long.	Overstorey species	Native ground layer	Understorey species	Patch > 2 ha	Density / regeneration	Community	Dominant canopy species
050713-1	2	Non-impact	HVR	13.3.1	56	-28.789	151.833	YES	NO					<i>Eucalyptus blakelyi</i>
050713-2	45	Pipeline	3D	13.12.8	56	-28.778	151.851	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
050713-3	50	Non-impact	HVR	13.12.8/13.12.9	56	-28.826	151.841	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
050713-4	51	Non-impact	HVR	13.12.9/13.12.8	56	-28.821	151.838	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
080713-1	8	Non-impact	Rem.	13.3.1	56	-28.786	151.821	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
080713-2	49	Non-impact	HVR	13.12.9/13.12.8	56	-28.813	151.797	NO						<i>Eucalyptus conica</i>
080713-3	81	Non-impact	HVR	13.12.8/13.12.9	56	-28.754	151.827	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
080713-5	91	FSL	3D	13.12.9	56	-28.753	151.826	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus melliodora</i>
090713-1	52	Non-impact	Rem.	13.12.8/13.12.9	56	-28.765	151.868	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus melliodora</i>
090713-2	39	Non-impact	HVR	13.12.9/13.12.8	56	-28.746	151.876	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
090713-3	41	Pipeline	3D	13.12.9	56	-28.737	151.864	YES	NO					<i>Eucalyptus blakelyi</i>
090713-4	27	Non-impact	Rem.	13.12.8/13.12.9	56	-28.735	151.843	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
090713-5	54	Non-impact	HVR	13.12.8/13.12.9	56	-28.737	151.846	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus melliodora</i>
090713-6	26	Non-impact	Rem.	13.12.8/13.12.9	56	-28.737	151.854	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus melliodora</i>
090713-7	20	Non-impact	Rem.	13.12.8/13.12.9	56	-28.739	151.855	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
090713-8	38	Non-impact	HVR	13.12.8/13.12.9	56	-28.742	151.860	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
090713-9	53	Non-impact	HVR	13.12.9/13.12.8	56	-28.743	151.865	NO						<i>Angophora floribunda</i>
090713-11	80	FSL	3D	13.12.9	56	-28.748	151.826	NO						<i>Angophora floribunda</i> and <i>Eucalyptus</i> sp. (stringybark)
090713-12	28	Non-impact	Rem.	13.12.8/13.12.9	56	-28.753	151.866	NO						<i>Angophora floribunda</i> and <i>Eucalyptus</i> sp. (stringybark)
107013-1	84	Pipeline	3D	13.12.8	56	-28.767	151.854	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
100713-2	37	Non-impact	Rem.	13.12.9/13.12.8	56	-28.764	151.802	NO						<i>Angophora floribunda</i>
100713-3	18	Non-impact	HVR	13.3.4/13.3.1	56	-28.802	151.812	NO						<i>Angophora floribunda</i> and <i>Eucalyptus</i> sp. (stringybark)
100713-4	48	Non-impact	HVR	13.3.1	56	-28.782	151.779	YES	NO					<i>Eucalyptus blakelyi</i>
100713-5	47	Non-impact	Rem.	13.3.1	56	-28.780	151.776	NO						<i>Angophora floribunda</i> and <i>Eucalyptus bridgesiana</i>
100713-6a	11	Non-impact	HVR	13.3.1	56	-28.789	151.822	NO						<i>Angophora floribunda</i> and <i>Eucalyptus</i> sp. (stringybark)
100713-6	60	Pipeline	3D	13.12.9	56	-28.683	151.922	NO						<i>Angophora floribunda</i> , <i>Eucalyptus bridgesiana</i> and <i>Eucalyptus</i> sp. (stringybark)
100713-7	74	Non-impact	Rem.	13.3.1	56	-28.655	151.841	NO						<i>Angophora floribunda</i> , <i>Eucalyptus bridgesiana</i> and <i>Eucalyptus</i> sp. (stringybark)
100713-9	72	Non-impact	Rem.	13.12.9/13.12.8	56	-28.646	151.867	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
100713-8	58	Non-impact	Rem.	13.12.9/13.12.8	56	-28.657	151.805	NO						<i>Angophora floribunda</i> , <i>Callitris</i> sp. and <i>Eucalyptus</i> sp. (stringybark)

## Emu Swamp Dam Box - Gum Grassy Woodlands and Derived Grasslands checklists

Site	Field ID	Project Location	Veg.	RE	Zone	Lat.	Long.	Overstorey species	Native ground layer	Understorey species	Patch > 2 ha	Density / regeneration	Community	Dominant canopy species
110713-1	44	Non-impact	HVR	13.12.9/13.12.8	56	-28.813	151.850	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
110713-4	79	Non-impact	Rem.	13.3.1	56	-28.680	151.919	NO						<i>Angophora floribunda</i> , <i>Callitris</i> sp. and <i>Eucalyptus</i> sp. (stringybark)
110713-6	107	Council Land	HVR	13.12.9/13.12.8	56	-28.717	151.990	NO						<i>Eucalyptus</i> sp. (stringybark)
110713-7	64	Non-impact	HVR	13.12.9/13.12.8	56	-28.723	151.984	NO						<i>Eucalyptus bridgesiana</i> and <i>Eucalyptus</i> sp. (stringybark)
110713-8	5	Pipeline	3D	13.12.8	56	-28.797	151.850	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
110713-9	70	Non-impact	Rem.	13.12.8/13.12.9	56	-28.751	151.925	NO						<i>Angophora floribunda</i> and <i>Eucalyptus</i> sp. (stringybark)
150713-3	99	Council Land	HVR	13.12.9	56	-28.660	151.903	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
150713-1	75	Council Land	HVR	13.3.1	56	-28.646	151.966	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus melliodora</i> and <i>Eucalyptus blakelyi</i>
150713-2	97	Council Land	HVR	13.3.1	56	-28.632	151.958	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
150713-4	73	Non-impact	HVR	13.12.9/13.12.8	56	-28.650	151.897	NO						<i>Eucalyptus bridgesiana</i>
160713-1	100	Council Land	HVR	13.3.1	56	-28.661	151.862	NO						<i>Eucalyptus bridgesiana</i>
160713-2	68	Non-impact	Rem.	13.12.9/13.12.8	56	-28.681	151.829	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
160713-3	56	Non-impact	Rem.	13.12.9/13.12.8	56	-28.731	151.778	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>
160713-4	63	Non-impact	HVR	13.3.1	56	-28.669	151.828	NO						<i>Eucalyptus microcarpa</i>
160713-5	71	Pipeline	HVR	13.3.1	56	-28.619	151.878	NO						<i>Pinus radiata</i>
160713-6	66	Non-impact	HVR	13.3.1/13.3.4	56	-28.688	151.998	NO						<i>Eucalyptus bridgesiana</i> and <i>Eucalyptus</i> sp. (stringybark)
160713-7	67	Non-impact	HVR	13.12.8/13.12.9	56	-28.697	152.044	YES	NO					<i>Eucalyptus blakelyi</i>
170713-1	78	Pipeline	3D	13.12.9	56	-28.690	151.911	NO						<i>Angophora floribunda</i> , <i>Eucalyptus conica</i> and <i>Eucalyptus</i> sp. (stringybark)
180713-3	FID I	Pipeline	HVR	13.12.8	56	-28.582	151.857	YES	NO					<i>Eucalyptus blakelyi</i>
180713-4	12	FSL	3D	13.3.1	56	-28.753	151.857	YES	NO					<i>Eucalyptus blakelyi</i>
190713-1	85	Pipeline	3D	13.12.9	56	-28.710	151.830	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus albens</i> and <i>Eucalyptus blakelyi</i>
310114-2	A-0	Non-impact	Rem.	13.11.8/13.11.3	56	-28.644	151.617	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus melliodora</i> and <i>E. moluccana</i> (Nandewar BioRegion). NOTE: unsure of native understorey, also grazed.
310114-3	A-4	Non-impact	Rem.	13.11.8/13.11.3	56	-28.671	151.594	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus melliodora</i> , <i>E. blakelyi</i> and <i>E. microcarpa</i> (Nandewar BioRegion). NOTE: unsure of native understorey - probably some Whiskey Grass also grazed.
310114-4	A-5	Non-impact	HVR		56	-28.675	151.581	YES	YES	n/a	YES	YES	YES	<i>Eucalyptus blakelyi</i>
290114-3	B-Extra	Non-impact	Rem.	13.12.9/13.12.8	56	-28.686	151.806	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i>

Emu Swamp Dam Box - Gum Grassy Woodlands and Derived Grasslands checklists

Site	Field ID	Project Location	Veg.	RE	Zone	Lat.	Long.	Overstorey species	Native ground layer	Understorey species	Patch > 2 ha	Density / regeneration	Community	Dominant canopy species
290114-4	B-8	Non-impact	Rem.	13.12.9/13.12.8	56	-28.691	151.804	NO					NO	<i>Eucalyptus caliginosa</i>
290114-5	Extra	Non-impact	Rem.	13.12.9/13.12.8	56	-28.674	151.841	NO					NO	<i>Eucalyptus caliginosa</i> and <i>E. bridgesiana</i>
310114-1	B-7	Non-impact	Rem.	13.12.9/13.12.8	56	-28.673	151.800	NO					NO	Stringybark and <i>Callitris</i> sp.
300114-4	C-Extra	Non-impact			56	-28.631	151.877	NO					NO	<i>Eucalyptus bridgesiana</i>
300114-5	C-Extra	Non-impact	Rem.	13.12.9/13.12.8	56	-28.583	151.866	NO					NO	<i>Eucalyptus bridgesiana</i>
300114-6	C-12	Non-impact	Rem.	13.12.9/13.12.8	56	-28.620	151.887	NO					NO	Stringybark
310114-5	C-13	Non-impact	Rem.	13.12.9/13.12.8	56	-28.572	151.893	NO					NO	<i>Callitris</i> sp.
310114-6	C-11	Non-impact	Rem.	13.12.9/13.12.8	56	-28.587	151.886	NO					NO	Stringybark
300114-1	D-Extra	Non-impact	N/Rem.		56	-28.475	151.846	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus blakelyi</i> and <i>E. moluccana</i> (Nandewar BioRegion). NOTE: unsure of native understorey - lots of African Lovegrass by the road, also grazed.
300114-2	D-15	Non-impact	Rem.	13.11.8/13.11.3	56	-28.491	151.798	NO					NO	<i>Eucalyptus crebra</i>
300114-3	D-Extra	Non-impact	N/Rem.		56	-28.494	151.798	YES	YES	N/A	YES	YES	YES	<i>Eucalyptus moluccana</i> and <i>E. blakelyi</i> (Nandewar BioRegion)
290114-1	G-3	Non-impact	Rem.	13.12.9/13.12.8	56	-28.693	151.920	NO					NO	<i>Eucalyptus bridgesiana</i>
290114-2	G-Extra	Non-impact	Rem.	13.12.9/13.12.8	56	-28.682	151.925	NO					NO	<i>Eucalyptus caliginosa</i>
310114-9	H-20	Non-impact	HVR		56	-28.583	151.781	NO					NO	<i>Callitris</i> sp.
310114-10	H-21/22	Non-impact	Rem.	13.12.9/13.12.8	56	-28.575	151.778	NO					NO	<i>Callitris</i> sp. and <i>Pinus</i> sp.
310114-7	G. Dam	Non-impact			56	-28.971	151.464	NO					NO	Ironbark
310114-8	G. Dam	Non-impact			56	-28.977	151.468	NO					NO	Ironbark and <i>Callitris</i> sp.

## Appendix B. Confirmed *Melaleuca williamsii* location data

<i>M. williamsii</i> outside FSL (SKM, July 2013)			<i>M. williamsii</i> outside FSL (SKM, Oct 2013)			<i>M. williamsii</i> inside FSL (SKM, July 2013)		
Longitude	Latitude	Number of plants	Longitude	Latitude	Number of plants	Longitude	Latitude	Number of plants
151.8106	-28.8016	1	151.918561	-28.679394	25	151.8331	-28.7519	1
151.8107	-28.8014	1	151.91749	-28.64643	50	151.8331	-28.7520	1
151.8108	-28.8015	1	151.919533	-28.679702	20	151.8331	-28.7520	1
151.8108	-28.8015	1	151.919538	-28.679378	3	151.8331	-28.7520	1
151.8108	-28.8014	3	151.933867	-28.660842	7	151.8332	-28.7518	1
151.8109	-28.8015	2	151.835405	-28.775587	4	151.8332	-28.7520	1
151.8109	-28.8015	1	151.83578	-28.776292	1	151.8332	-28.7519	1
151.8110	-28.8014	3	TOTAL		110	151.8332	-28.7520	1
151.8111	-28.8014	1				151.8332	-28.7517	1
151.8111	-28.8014	1				151.8333	-28.7519	1
151.8113	-28.8013	1				151.8334	-28.7521	1
151.8114	-28.8013	1				151.8335	-28.7521	1
151.8205	-28.7865	27				151.8335	-28.7521	1
151.8205	-28.7862	3				151.8335	-28.7521	1
151.8206	-28.7864	1				151.8335	-28.7521	1
151.8206	-28.7864	1				151.8335	-28.7521	1
151.8207	-28.7860	1				151.8335	-28.7520	1
151.8207	-28.7861	1				151.8335	-28.7521	1
151.8359	-28.7762	1				151.8335	-28.7521	1
151.8359	-28.7762	1				151.8336	-28.7522	1
151.8360	-28.7763	1				151.8336	-28.7522	1
151.8360	-28.7763	1				151.8336	-28.7519	1
151.8360	-28.7763	1				151.8336	-28.7523	1
151.8360	-28.7763	1				151.8336	-28.7522	1
151.8361	-28.7764	1				151.8336	-28.7523	1
151.8361	-28.7763	1				151.8336	-28.7520	1
151.8361	-28.7763	1				151.8336	-28.7522	1
151.8362	-28.7764	1				151.8336	-28.7522	1
151.8363	-28.7767	1				151.8337	-28.7522	1
151.8580	-28.7537	3				151.8338	-28.7522	1
151.8581	-28.7539	1				151.8338	-28.7522	1
151.8581	-28.7538	2				151.8338	-28.7521	1
151.8582	-28.7539	2				151.8338	-28.7521	1
151.8582	-28.7539	2				151.8338	-28.7523	1
151.8582	-28.7539	3				151.8338	-28.7521	1
151.8583	-28.7537	1				151.8338	-28.7519	1
151.8583	-28.7540	3				151.8339	-28.7521	1
151.8583	-28.7540	2				151.8339	-28.7521	1
151.8583	-28.7536	1						38
151.8583	-28.7540	2						
151.8583	-28.7539	2						
151.8583	-28.7541	3						
151.8583	-28.7537	1						
151.8583	-28.7539	1						
151.8583	-28.7541	2						
151.8583	-28.7537	1						
151.8583	-28.7541	2						
151.8583	-28.7540	2						
151.8584	-28.7542	2						
151.8584	-28.7541	1						
151.8584	-28.7541	1						
151.8584	-28.7542	1						
151.8584	-28.7542	1						
151.8584	-28.7542	3						
151.8584	-28.7543	1						
151.8584	-28.7543	1						
151.8585	-28.7543	5						
151.8585	-28.7542	4						
151.8585	-28.7543	2						
151.8585	-28.7542	3						
151.8585	-28.7543	1						
151.8585	-28.7542	2						
151.8585	-28.7544	3						
151.8586	-28.7544	1						

151.8586	-28.7541	2
151.8586	-28.7542	5
151.8587	-28.7541	2
151.8588	-28.7542	2
151.8588	-28.7543	2
151.8588	-28.7542	1
151.8588	-28.7543	4
151.9181	-28.6787	1
151.9181	-28.6787	6
151.9181	-28.6788	3
151.9183	-28.6783	2
151.9183	-28.6789	1
151.9184	-28.6788	2
151.9185	-28.6790	1
151.9185	-28.6788	1
151.9185	-28.6793	1
151.9185	-28.6788	2
151.9185	-28.6791	1
151.9185	-28.6788	2
151.9185	-28.6791	1
151.9185	-28.6794	2
151.9185	-28.6788	1
151.9186	-28.6789	1
151.9186	-28.6787	4
151.9487	-28.6600	1
151.9574	-28.6333	4
151.9574	-28.6332	7
151.9576	-28.6329	1
151.9577	-28.6328	1
151.9577	-28.6328	1
151.9577	-28.6328	2
151.9650	-28.6471	3
151.9652	-28.6469	1
151.9652	-28.6469	1
151.9652	-28.6469	15
151.9653	-28.6469	3
151.9653	-28.6469	10
151.9653	-28.6469	4
151.9653	-28.6469	1
151.9653	-28.6470	6
151.9653	-28.6469	3
151.9654	-28.6469	4
151.9656	-28.6467	1
151.9657	-28.6472	1
151.9658	-28.6471	1
TOTAL		251

## Appendix C. Site based BioCondition data scores



Site number: 010713 - 2 (FID 1)	Benchmark (13.12.9)		BioCondition Plot		Lat. -28.755	Long. 151.867
Attribute	Threshold	Weighting (%)	Value		Sub-score	Score
Large trees		15	no. Euc.	6		
Eucalypts	43 cm (DBH)		no. non-Euc.	0		
Non-eucalypts	45 /hectare		% of benchmark	26.7	5	5
	n/a					
	n/a					
Tree canopy height (m)		5	canopy (m)	17.5		
Canopy	22 m (canopy)		% of benchmark	79.5	5	5
Sub-canopy	n/a		sub-canopy (m)	n/a		
			% of benchmark	n/a		
Recruitment of canopy species (%)	100 %	5	% recruitment	100		
			% of benchmark	100	5	5
Tree canopy cover (%)						
Canopy	60 %	5	% canopy cover	60.5		
Sub-canopy	n/a		% of benchmark	100.8	5	5
			% subcanopy cover	n/a		
			% of benchmark	n/a		
Shrub cover (%)	34 %	5	% shrub cover	5		
			% of benchmark	14.7	3	3
Coarse woody debris (m/ha)	491 m/ha	5	m cwd	625		
			% of benchmark	127.3	5	5
Native plant spp. richness		20	no. tree spp.	7		
Trees	4 spp.		% of benchmark	175.0	5	
Shrubs	8 spp.		no. shrub spp.	7		
Grass	9 spp.		% of benchmark	87.5	2.5	
Other/forbs	21 spp.		no. grass spp.	12		
			% of benchmark	133.3	5	
			no. other/forb spp.	16		
			% of benchmark	76.2	2.5	15
Non-native plant cover (%)	0	10	% non-native plant cover	1	10	10
Native perennial grass cover (%)	15 %	5	% native grass cover	30		
			% of benchmark	200.0	5	5
Organic litter cover (%)	79 %	5	% organic litter cover	33		
			% of benchmark	41.8	3	3
Landscape context (fragmented)						
Patch size		10				
Context		5				
Connectivity		5				
Total Score		100				61
BioCondition Class						

Site number: 020713 - 2 (FID 90)	No benchmark 13.3.1 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.747	Long. 151.815
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 22		
Eucalypts	n/a		no. non-Euc. 4		
Non-eucalypts	n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 22		
Canopy	n/a		% of benchmark n/a	2.5	5
Sub-canopy	n/a		sub-canopy (m) 3		
			% of benchmark n/a	2.5	
Recruitment of canopy species (%)	100 %	5	% recruitment 100		
			% of benchmark 100	5	5
Tree canopy cover (%)		5	% canopy cover 59		
Canopy	n/a		% of benchmark n/a	5	5
Sub-canopy	n/a		% subcanopy cover 5.5		
			% of benchmark n/a		
Shrub cover (%)	n/a	5	% shrub cover 25		
			% of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 505		
			% of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 6		
Trees	n/a		% of benchmark n/a	5	
Shrubs	n/a		no. shrub spp. 13		
Grass	n/a		% of benchmark n/a	5	
Other/forbs	n/a		no. grass spp. 10		
			% of benchmark n/a	5	
			no. other/forb spp. 19		
			% of benchmark n/a	5	20
Non-native plant cover (%)	0 %	10	% non-native plant cover 2.5	10	10
Native perennial grass cover (%)	n/a	5	% native grass cover 43		
			% of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 30		
			% of benchmark n/a	5	5
Landscape context (fragmented)		10			
Patch size		5			
Context		5			
Connectivity		5			
Total Score		100			80
BioCondition Class					

Site number: 040713 - 3 (FID 89)		Benchmark (13.12.8)		BioCondition Plot		Lat. -28.762	Long. 151.840
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score		
Large trees		15	no. Euc. 1 no. non-Euc. 0				
Eucalypts	43 cm (DBH)						
Non-eucalypts	43 /hectare 53 cm (DBH) 2 /hectare		% of benchmark 4.7	5	5		
Tree canopy height (m)		5	canopy (m) 14 % of benchmark 73.7 sub-canopy (m) n/a % of benchmark n/a	3	3		
Canopy	19 m (canopy)						
Sub-canopy	n/a						
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5		
Tree canopy cover (%)		5	% canopy cover 9.5 % of benchmark 19.0 % subcanopy cover 14.5 % of benchmark n/a	2	2		
Canopy	50 %						
Sub-canopy	n/a						
Shrub cover (%)	18 %	5	% shrub cover 6 % of benchmark 33.3	3	3		
Coarse woody debris (m/ha)	491 m/ha	5	m cwd 470 % of benchmark 95.7	5	5		
Native plant spp. richness		20	no. tree spp. 3 % of benchmark 100.0 no. shrub spp. 8 % of benchmark 200.0 no. grass spp. 10 % of benchmark 83.3 no. other/forb spp. 17 % of benchmark 73.9	5 5 2.5 2.5	15		
Trees	3 spp.						
Shrubs	4 spp.						
Grass	12 spp.						
Other/forbs	23 spp.						
Non-native plant cover (%)	0	10	% non-native plant cover 5	10	10		
Native perennial grass cover (%)	15 %	5	% native grass cover 23 % of benchmark 153.3	5	5		
Organic litter cover (%)	83 %	5	% organic litter cover 34.2 % of benchmark 41.2	3	3		
Landscape context (fragmented)							
Patch size		10					
Context		5					
Connectivity		5					
Total Score		100			56		
BioCondition Class							

Site number: 050713 - 2 (FID 45)		Benchmark (13.12.8)		BioCondition Plot		Lat. -28.778	Long. 151.851
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score		
Large trees		15	no. Euc. 4 no. non-Euc. 0				
Eucalypts	43 cm (DBH)						
Non-eucalypts	43 /hectare 53 cm (DBH) 2 /hectare		% of benchmark 18.6	5	5		
Tree canopy height (m)		5	canopy (m) 16 % of benchmark 84.2 sub-canopy (m) n/a % of benchmark n/a	5	5		
Canopy	19 m (canopy)						
Sub-canopy	n/a						
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5		
Tree canopy cover (%)		5	% canopy cover 61.0 % of benchmark 122.0 % subcanopy cover 3 % of benchmark n/a	5	5		
Canopy	50 %						
Sub-canopy	n/a						
Shrub cover (%)	18 %	5	% shrub cover 51 % of benchmark 280.6	3	3		
Coarse woody debris (m/ha)	491 m/ha	5	m cwd 370 % of benchmark 75.4	5	5		
Native plant spp. richness		20	no. tree spp. 4 % of benchmark 133.3 no. shrub spp. 7 % of benchmark 175.0 no. grass spp. 14 % of benchmark 116.7 no. other/forb spp. 10 % of benchmark 43.5	5 5 5 2.5	17.5		
Trees	3 spp.						
Shrubs	4 spp.						
Grass	12 spp.						
Other/forbs	23 spp.						
Non-native plant cover (%)	0	10	% non-native plant cover 2.5	10	10		
Native perennial grass cover (%)	15 %	5	% native grass cover 20.2 % of benchmark 134.7	5	5		
Organic litter cover (%)	83 %	5	% organic litter cover 55.4 % of benchmark 66.7	5	5		
Landscape context (fragmented)							
Patch size		10					
Context		5					
Connectivity		5					
Total Score		100			65.5		
BioCondition Class							

Site number: 090713 - 3 (FID 41)		Benchmark (13.12.9)		BioCondition Plot		Lat. -28.737	Long. 151.864
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score		
Large trees		15	no. Euc. 24				
Eucalypts	43 cm (DBH)		no. non-Euc. 0				
Non-eucalypts	45 /hectare		% of benchmark 106.7	15	15		
	n/a						
	n/a						
Tree canopy height (m)		5	canopy (m) 16				
Canopy	22 m (canopy)		% of benchmark 72.7	3	3		
Sub-canopy	n/a		sub-canopy (m) n/a				
			% of benchmark n/a				
Recruitment of canopy species (%)	100 %	5	% recruitment 0				
			% of benchmark 0	0	0		
Tree canopy cover (%)		5	% canopy cover 58.0				
Canopy	60 %		% of benchmark 96.7	5	5		
Sub-canopy	n/a		% subcanopy cover 0				
			% of benchmark n/a				
Shrub cover (%)	34 %	5	% shrub cover 0				
			% of benchmark 0.0	0	0		
Coarse woody debris (m/ha)	491 m/ha	5	m cwd 135				
			% of benchmark 27.5	2	2		
Native plant spp. richness		20	no. tree spp. 3				
Trees	4 spp.		% of benchmark 75.0	2.5			
Shrubs	8 spp.		no. shrub spp. 1				
Grass	9 spp.		% of benchmark 12.5	0			
Other/forbs	21 spp.		no. grass spp. 4				
			% of benchmark 44.4	2.5			
			no. other/forb spp. 6				
			% of benchmark 28.6	2.5	7.5		
Non-native plant cover (%)	0	10	% non-native plant cover 20	5	5		
Native perennial grass cover (%)	15 %	5	% native grass cover 12				
			% of benchmark 80.0	3	3		
Organic litter cover (%)	79 %	5	% organic litter cover 31				
			% of benchmark 39.2	3	3		
Landscape context (fragmented)							
Patch size		10					
Context		5					
Connectivity		5					
Total Score		100			43.5		
BioCondition Class							

Site number: 080713 - 5 (FID 91)		Benchmark (13.12.9)		BioCondition Plot		Lat. -28.753	Long. 151.826
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score		
Large trees		15	no. Euc. 9 no. non-Euc. 0				
Eucalypts	43 cm (DBH)						
Non-eucalypts	45 /hectare n/a n/a		% of benchmark 40.0	5	5		
Tree canopy height (m)		5	canopy (m) 20 % of benchmark 90.9 sub-canopy (m) n/a % of benchmark n/a	5	5		
Canopy	22 m (canopy)						
Sub-canopy	n/a						
Recruitment of canopy species (%)	100 %	5	% recruitment 80 % of benchmark 80	5	5		
Tree canopy cover (%)		5	% canopy cover 61.0 % of benchmark 101.7 % subcanopy cover 23.5 % of benchmark n/a	5	5		
Canopy	60 %						
Sub-canopy	n/a						
Shrub cover (%)	34 %	5	% shrub cover 8 % of benchmark 23.5	3	3		
Coarse woody debris (m/ha)	491 m/ha	5	m cwd / ha 335 % of benchmark 68.2	5	5		
Native plant spp. richness		20	no. tree spp. 5 % of benchmark 125.0 no. shrub spp. 7 % of benchmark 87.5 no. grass spp. 13 % of benchmark 144.4 no. other/forb spp. 6 % of benchmark 28.6	5 2.5 5 2.5	15		
Trees	4 spp.						
Shrubs	8 spp.						
Grass	9 spp.						
Other/forbs	21 spp.						
Non-native plant cover (%)	0	10	% non-native plant cover 1	10	10		
Native perennial grass cover (%)	15 %	5	% native grass cover 51.6 % of benchmark 344.0	5	5		
Organic litter cover (%)	79 %	5	% organic litter cover 27.4 % of benchmark 34.7	3	3		
Landscape context (fragmented)							
Patch size		10					
Context		5					
Connectivity		5					
Total Score		100			61		
BioCondition Class							

Site number: 090713 - 10 (FID 93)	No benchmark 13.12.5 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.749	Long. 151.830
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 18		
Eucalypts	n/a		no. non-Euc. 10		
Non-eucalypts	n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 20		
Canopy	n/a		% of benchmark n/a	2.5	5
Sub-canopy	n/a		sub-canopy (m) 4		
			% of benchmark n/a	2.5	
Recruitment of canopy species (%)	100 %	5	% recruitment 100		
			% of benchmark 100	5	5
Tree canopy cover (%)		5	% canopy cover 63.0		
Canopy	n/a		% of benchmark n/a	5	5
Sub-canopy	n/a		% subcanopy cover 22		
			% of benchmark n/a		
Shrub cover (%)	n/a	5	% shrub cover 12		
			% of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 615		
			% of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 5		
Trees	n/a		% of benchmark n/a	5	
Shrubs	n/a		no. shrub spp. 13		
			% of benchmark n/a	5	
Grass	n/a		no. grass spp. 13		
			% of benchmark n/a	5	
Other/forbs	n/a		no. other/forb spp. 18		
			% of benchmark n/a	5	20
Non-native plant cover (%)	0 %	10	% non-native plant cover 1	10	10
Native perennial grass cover (%)	n/a	5	% native grass cover 47		
			% of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 37.2		
			% of benchmark n/a	5	5
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100	80		
BioCondition Class					



Site number: 040713 - 2 (FID 94)	No benchmark 13.12.5 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.752	Long. 151.830
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 14 no. non-Euc. 4		
Eucalypts	n/a				
Non-eucalypts	n/a n/a n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 22 % of benchmark n/a sub-canopy (m) 4 % of benchmark n/a	2.5 2.5	5
Canopy	n/a				
Sub-canopy	n/a				
Recruitment of canopy species (%)	100 %	5	% recruitment 75 % of benchmark 75	3	3
Tree canopy cover (%)		5	% canopy cover 56.5 % of benchmark n/a % subcanopy cover 10 % of benchmark n/a	5	5
Canopy	n/a				
Sub-canopy	n/a				
Shrub cover (%)	n/a	5	% shrub cover 3 % of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 245 % of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 4 % of benchmark n/a no. shrub spp. 8 % of benchmark n/a no. grass spp. 8 % of benchmark n/a no. other/forb spp. 11 % of benchmark n/a	5 5 5 5	20
Trees	n/a				
Shrubs	n/a				
Grass	n/a				
Other/forbs	n/a				
Non-native plant cover (%)	0 %	10	% non-native plant cover 15	5	5
Native perennial grass cover (%)	n/a	5	% native grass cover 2.8 % of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 73.6 % of benchmark n/a	5	5
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100			73
BioCondition Class					

Site number: 040713 - 1 (FID 82)	No benchmark 13.12.6 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.752	Long. 151.834
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 0		
Eucalypts	n/a		no. non-Euc. 3		
Non-eucalypts	n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 12		
Canopy	n/a		% of benchmark n/a	2.5	5
Sub-canopy	n/a		sub-canopy (m) 4		
			% of benchmark n/a	2.5	
Recruitment of canopy species (%)	100 %	5	% recruitment 100		
			% of benchmark 100	5	5
Tree canopy cover (%)		5	% canopy cover 0		
Canopy	n/a		% of benchmark n/a	5	5
Sub-canopy	n/a		% subcanopy cover 0		
			% of benchmark n/a		
Shrub cover (%)	n/a	5	% shrub cover 22		
			% of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 260		
			% of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 3		
Trees	n/a		% of benchmark n/a	5	
Shrubs	n/a		no. shrub spp. 13		
Grass	n/a		% of benchmark n/a	5	
Other/forbs	n/a		no. grass spp. 6		
			% of benchmark n/a	5	
			no. other/forb spp. 19		
			% of benchmark n/a	5	20
Non-native plant cover (%)	0 %	10	% non-native plant cover 1	10	10
Native perennial grass cover (%)	n/a	5	% native grass cover 2		
			% of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 2.8		
			% of benchmark n/a	5	5
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100			80
BioCondition Class					

Site number: 020713 - 1 (FID 92)	No benchmark 13.12.2 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.749	Long. 151.823
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 9 no. non-Euc. 3		
Eucalypts	n/a				
Non-eucalypts	n/a n/a n/a n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 18 % of benchmark n/a sub-canopy (m) 6 % of benchmark n/a	2.5	5
Canopy	n/a				
Sub-canopy	n/a				
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5
Tree canopy cover (%)		5	% canopy cover 52 % of benchmark n/a % subcanopy cover 28 % of benchmark n/a	5	5
Canopy	n/a				
Sub-canopy	n/a				
Shrub cover (%)	n/a	5	% shrub cover 12.0 % of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 595 % of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 3 % of benchmark n/a no. shrub spp. 10 % of benchmark n/a no. grass spp. 10 % of benchmark n/a no. other/forb spp. 17 % of benchmark n/a	5	20
Trees	n/a				
Shrubs	n/a				
Grass	n/a				
Other/forbs	n/a				
Non-native plant cover (%)	0 %	10	% non-native plant cover 1	10	10
Native perennial grass cover (%)	n/a	5	% native grass cover 6 % of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 51 % of benchmark n/a	5	5
Landscape context (fragmented)		10			
Patch size		5			
Context		5			
Connectivity		5			
Total Score		100			80
BioCondition Class					

Site number: 110713 - 2 (FID 105)	No benchmark 13.12.5 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.797	Long. 151.832
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 21		
Eucalypts	n/a		no. non-Euc. 6		
Non-eucalypts	n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 18		
Canopy	n/a		% of benchmark n/a	2.5	5
Sub-canopy	n/a		sub-canopy (m) 3		
			% of benchmark n/a	2.5	
Recruitment of canopy species (%)	100 %	5	% recruitment 100		
			% of benchmark 100	5	5
Tree canopy cover (%)		5	% canopy cover 70		
Canopy	n/a		% of benchmark n/a	5	5
Sub-canopy	n/a		% subcanopy cover 26.5		
			% of benchmark n/a		
Shrub cover (%)	n/a	5	% shrub cover 20.5		
			% of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 520		
			% of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 5		
Trees	n/a		% of benchmark n/a	5	
Shrubs	n/a		no. shrub spp. 8		
Grass	n/a		% of benchmark n/a	5	
Other/forbs	n/a		no. grass spp. 7		
			% of benchmark n/a	5	
			no. other/forb spp. 14		
			% of benchmark n/a	5	20
Non-native plant cover (%)	0 %	10	% non-native plant cover 2.5	10	10
Native perennial grass cover (%)	n/a	5	% native grass cover 7		
			% of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 26		
			% of benchmark n/a	5	5
Landscape context (fragmented)		10			
Patch size		5			
Context		5			
Connectivity		5			
Total Score		100			80
BioCondition Class					

Site number: 110713 - 3 (FID 96)	No benchmark 13.12.2 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.748	Long. 151.814
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 13 no. non-Euc. 12		
Eucalypts	n/a				
Non-eucalypts	n/a n/a n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 12 % of benchmark n/a sub-canopy (m) 3 % of benchmark n/a	2.5 2.5	5
Canopy	n/a				
Sub-canopy	n/a				
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5
Tree canopy cover (%)		5	% canopy cover 28 % of benchmark n/a % subcanopy cover 0 % of benchmark n/a	5	5
Canopy	n/a				
Sub-canopy	n/a				
Shrub cover (%)	n/a	5	% shrub cover 3 % of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 160 % of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 5 % of benchmark n/a no. shrub spp. 8 % of benchmark n/a no. grass spp. 9 % of benchmark n/a no. other/forb spp. 20 % of benchmark n/a	5 5 5 5 5	20
Trees	n/a				
Shrubs	n/a				
Grass	n/a				
Other/forbs	n/a				
Non-native plant cover (%)	0 %	10	% non-native plant cover 1.5	10	10
Native perennial grass cover (%)	n/a	5	% native grass cover 4.2 % of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 22.4 % of benchmark n/a	5	5
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100			80
BioCondition Class					

Site number: 110713 - 6 (FID 107)		Benchmark (13.12.9)		BioCondition Plot		Lat. -28.717	Long. 151.990
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score		
Large trees		15	no. Euc. 8 no. non-Euc. 0				
Eucalypts	43 cm (DBH)						
Non-eucalypts	45 /hectare n/a n/a		% of benchmark 35.6	5	5		
Tree canopy height (m)		5					
Canopy	22 m (canopy)		canopy (m) 22				
Sub-canopy	n/a		% of benchmark 100.0 sub-canopy (m) 3 % of benchmark n/a	5	5		
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5		
Tree canopy cover (%)		5					
Canopy	60 %		% canopy cover 43.5 % of benchmark 72.5	5	5		
Sub-canopy	n/a		% subcanopy cover 10.5 % of benchmark n/a				
Shrub cover (%)	34 %	5	% shrub cover 26.5 % of benchmark 77.9	5	5		
Coarse woody debris (m/ha)	491 m/ha	5	m cwd / ha 0 % of benchmark 0.0	0	0		
Native plant spp. richness		20					
Trees	4 spp.		no. tree spp. 3 % of benchmark 75.0	2.5			
Shrubs	8 spp.		no. shrub spp. 3 % of benchmark 37.5	2.5			
Grass	9 spp.		no. grass spp. 9 % of benchmark 100.0	5			
Other/forbs	21 spp.		no. other/forb spp. 13 % of benchmark 61.9	2.5	12.5		
Non-native plant cover (%)	0	10	% non-native plant cover 2.5	10	10		
Native perennial grass cover (%)	15 %	5	% native grass cover 67 % of benchmark 446.7	5	5		
Organic litter cover (%)	79 %	5	% organic litter cover 19.8 % of benchmark 25.1	3	3		
Landscape context (fragmented)							
Patch size		10					
Context		5					
Connectivity		5					
Total Score		100			55.5		
BioCondition Class							

Site number: 120713 - 1 (FID 98)	No benchmark 13.12.2/13.12.6 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.660	Long. 151.949
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 14 no. non-Euc. 10		
Eucalypts	n/a				
Non-eucalypts	n/a n/a n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 13 % of benchmark n/a sub-canopy (m) 3 % of benchmark n/a	2.5 2.5	5
Canopy	n/a				
Sub-canopy	n/a				
Recruitment of canopy species (%)	100 %	5	% recruitment 75 % of benchmark 75	3	3
Tree canopy cover (%)		5	% canopy cover 34 % of benchmark n/a % subcanopy cover 28 % of benchmark n/a	5	5
Canopy	n/a				
Sub-canopy	n/a				
Shrub cover (%)	n/a	5	% shrub cover 30 % of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 135 % of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 6 % of benchmark n/a no. shrub spp. 5 % of benchmark n/a no. grass spp. 9 % of benchmark n/a no. other/forb spp. 12 % of benchmark n/a	5 5 5 5	20
Trees	n/a				
Shrubs	n/a				
Grass	n/a				
Other/forbs	n/a				
Non-native plant cover (%)	0 %	10	% non-native plant cover 2.5	10	10
Native perennial grass cover (%)	n/a	5	% native grass cover 9 % of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 28.8 % of benchmark n/a	5	5
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100			78
BioCondition Class					

Site number: 150713 - 3 (FID 99)		Benchmark (13.12.9)		BioCondition Plot		Lat. -28.660	Long. 151.903
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score		
Large trees		15	no. Euc. 4 no. non-Euc. 0				
Eucalypts	43 cm (DBH)						
Non-eucalypts	45 /hectare n/a n/a		% of benchmark 17.8	5	5		
Tree canopy height (m)		5	canopy (m) 12 % of benchmark 54.5 sub-canopy (m) n/a % of benchmark n/a	3	3		
Canopy	22 m (canopy)						
Sub-canopy	n/a						
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5		
Tree canopy cover (%)		5	% canopy cover 38.0 % of benchmark 63.3 % subcanopy cover n/a % of benchmark n/a	5	5		
Canopy	60 %						
Sub-canopy	n/a						
Shrub cover (%)	34 %	5	% shrub cover 44.0 % of benchmark 129.4	5	5		
Coarse woody debris (m/ha)	491 m/ha	5	m cwd / ha 55 % of benchmark 11.2	2	2		
Native plant spp. richness		20	no. tree spp. 4 % of benchmark 100.0 no. shrub spp. 4 % of benchmark 50.0 no. grass spp. 10 % of benchmark 111.1 no. other/forb spp. 10 % of benchmark 47.6	5 2.5 5 2.5	15		
Trees	4 spp.						
Shrubs	8 spp.						
Grass	9 spp.						
Other/forbs	21 spp.						
Non-native plant cover (%)	0	10	% non-native plant cover 7.5	5	5		
Native perennial grass cover (%)	15 %	5	% native grass cover 21 % of benchmark 140.0	5	5		
Organic litter cover (%)	79 %	5	% organic litter cover 35 % of benchmark 44.3	3	3		
Landscape context (fragmented)							
Patch size		10					
Context		5					
Connectivity		5					
Total Score		100			53		
BioCondition Class							



Site number: 150713 - 2 (FID 97)	No benchmark 13.3.1 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.632	Long. 151.958
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 20 no. non-Euc. 13		
Eucalypts	n/a				
Non-eucalypts	n/a n/a n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 12 % of benchmark n/a sub-canopy (m) 4 % of benchmark n/a	2.5	5
Canopy	n/a				
Sub-canopy	n/a				
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5
Tree canopy cover (%)		5	% canopy cover 12 % of benchmark n/a % subcanopy cover 10 % of benchmark n/a	5	5
Canopy	n/a				
Sub-canopy	n/a				
Shrub cover (%)	n/a	5	% shrub cover 13 % of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 395 % of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 5 % of benchmark n/a no. shrub spp. 4 % of benchmark n/a no. grass spp. 6 % of benchmark n/a no. other/forb spp. 16 % of benchmark n/a	5 5 5 5	20
Trees	n/a				
Shrubs	n/a				
Grass	n/a				
Other/forbs	n/a				
Non-native plant cover (%)	0 %	10	% non-native plant cover 2.5	10	10
Native perennial grass cover (%)	n/a	5	% native grass cover 36 % of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 24 % of benchmark n/a	5	5
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100			80
BioCondition Class					

Site number: 160713 - 1 (FID 100)	No benchmark 13.3.1 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.661	Long. 151.862
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 19 no. non-Euc. 0		
Eucalypts	n/a				
Non-eucalypts	n/a n/a n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 16 % of benchmark n/a	2.5	5
Canopy	n/a		sub-canopy (m) n/a % of benchmark n/a	2.5	
Sub-canopy	n/a				
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5
Tree canopy cover (%)		5	% canopy cover 27 % of benchmark n/a	5	5
Canopy	n/a		% subcanopy cover n/a % of benchmark n/a		
Sub-canopy	n/a				
Shrub cover (%)	n/a	5	% shrub cover 8 % of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 295 % of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 3 % of benchmark n/a	5	
Trees	n/a		no. shrub spp. 3 % of benchmark n/a	5	
Shrubs	n/a		no. grass spp. 10 % of benchmark n/a	5	
Grass	n/a		no. other/forb spp. 9 % of benchmark n/a	5	
Other/forbs	n/a			5	20
Non-native plant cover (%)	0 %	10	% non-native plant cover 30	3	3
Native perennial grass cover (%)	n/a	5	% native grass cover 33 % of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 15.8 % of benchmark n/a	5	5
Landscape context (fragmented)		10			
Patch size		5			
Context		5			
Connectivity		5			
Total Score		100			73
BioCondition Class					

Site number: 160713 - 5 (FID 71)	No benchmark 13.3.1 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.619	Long. 151.878
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 14		
Eucalypts	n/a		no. non-Euc. 2		
Non-eucalypts	n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 21.2		
Canopy	n/a		% of benchmark n/a	2.5	5
Sub-canopy	n/a		sub-canopy (m) n/a		
			% of benchmark n/a	2.5	
Recruitment of canopy species (%)	100 %	5	% recruitment 80		
			% of benchmark 80	5	5
Tree canopy cover (%)		5	% canopy cover 45		
Canopy	n/a		% of benchmark n/a	5	5
Sub-canopy	n/a		% subcanopy cover n/a		
			% of benchmark n/a		
Shrub cover (%)	n/a	5	% shrub cover 0.5		
			% of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 40		
			% of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 5		
Trees	n/a		% of benchmark n/a	5	
Shrubs	n/a		no. shrub spp. 2		
Grass	n/a		% of benchmark n/a	5	
Other/forbs	n/a		no. grass spp. 4		
			% of benchmark n/a	5	
			no. other/forb spp. 9		
			% of benchmark n/a	5	20
Non-native plant cover (%)	0 %	10	% non-native plant cover 17.5	5	5
Native perennial grass cover (%)	n/a	5	% native grass cover 25		
			% of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 33.2		
			% of benchmark n/a	5	5
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100			75
BioCondition Class					

Site number: 170713 - 1 (FID 78)		Benchmark (13.12.9)		BioCondition Plot		Lat. -28.690	Long. 151.911
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score		
Large trees		15	no. Euc. 11 no. non-Euc. 0				
Eucalypts	43 cm (DBH)						
Non-eucalypts	45 /hectare n/a n/a		% of benchmark 48.9	5	5		
Tree canopy height (m)		5	canopy (m) 20 % of benchmark 90.9 sub-canopy (m) 5.5 % of benchmark n/a	5	5		
Canopy	22 m (canopy)						
Sub-canopy	n/a						
Recruitment of canopy species (%)	100 %	5	% recruitment 80 % of benchmark 80	5	5		
Tree canopy cover (%)		5	% canopy cover 58.0 % of benchmark 96.7 % subcanopy cover 9.5 % of benchmark n/a	5	5		
Canopy	60 %						
Sub-canopy	n/a						
Shrub cover (%)	34 %	5	% shrub cover 24 % of benchmark 70.6	5	5		
Coarse woody debris (m/ha)	491 m/ha	5	m cwd 700 % of benchmark 142.6	5	5		
Native plant spp. richness		20	no. tree spp. 5 % of benchmark 125.0 no. shrub spp. 9 % of benchmark 112.5 no. grass spp. 13 % of benchmark 144.4 no. other/forb spp. 13 % of benchmark 61.9	5 5 5 2.5	17.5		
Trees	4 spp.						
Shrubs	8 spp.						
Grass	9 spp.						
Other/forbs	21 spp.						
Non-native plant cover (%)	0	10	% non-native plant cover 1	10	10		
Native perennial grass cover (%)	15 %	5	% native grass cover 14 % of benchmark 93.3	5	5		
Organic litter cover (%)	79 %	5	% organic litter cover 56 % of benchmark 70.9	5	5		
Landscape context (fragmented)							
Patch size		10					
Context		5					
Connectivity		5					
Total Score		100			67.5		
BioCondition Class							

Site number: 170713 - 2 (FID 103)	No benchmark 13.11.3 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.366	Long. 152.008
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 19 no. non-Euc. 0		
Eucalypts	n/a				
Non-eucalypts	n/a n/a n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 10.2 % of benchmark n/a sub-canopy (m) n/a % of benchmark n/a	2.5 2.5	5
Canopy	n/a				
Sub-canopy	n/a				
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5
Tree canopy cover (%)		5	% canopy cover 35 % of benchmark n/a % subcanopy cover n/a % of benchmark n/a	5	5
Canopy	n/a				
Sub-canopy	n/a				
Shrub cover (%)	n/a	5	% shrub cover 0 % of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 105 % of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 3 % of benchmark n/a no. shrub spp. 3 % of benchmark n/a no. grass spp. 14 % of benchmark n/a no. other/forb spp. 14 % of benchmark n/a	5 5 5 5	20
Trees	n/a				
Shrubs	n/a				
Grass	n/a				
Other/forbs	n/a				
Non-native plant cover (%)	0 %	10	% non-native plant cover 1	10	10
Native perennial grass cover (%)	n/a	5	% native grass cover 60 % of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 24.6 % of benchmark n/a	5	5
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100			80
BioCondition Class					

Site number: 170713 - 3 (FID 102)	No benchmark 13.12.4 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.490	Long. 151.915
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 5 no. non-Euc. 1		
Eucalypts	n/a				
Non-eucalypts	n/a n/a n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 12 % of benchmark n/a sub-canopy (m) 5 % of benchmark n/a	2.5 2.5	5
Canopy	n/a				
Sub-canopy	n/a				
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5
Tree canopy cover (%)		5	% canopy cover 23 % of benchmark n/a % subcanopy cover 41.5 % of benchmark n/a	5	5
Canopy	n/a				
Sub-canopy	n/a				
Shrub cover (%)	n/a	5	% shrub cover 23 % of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 160 % of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 5 % of benchmark n/a no. shrub spp. 3 % of benchmark n/a no. grass spp. 12 % of benchmark n/a no. other/forb spp. 6 % of benchmark n/a	5 5 5 5	20
Trees	n/a				
Shrubs	n/a				
Grass	n/a				
Other/forbs	n/a				
Non-native plant cover (%)	0 %	10	% non-native plant cover 20	5	5
Native perennial grass cover (%)	n/a	5	% native grass cover 33 % of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 21.6 % of benchmark n/a	5	5
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100			75
BioCondition Class					

Site number: 180713 - 1 (FID B)	No benchmark 13.3.1 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.617	Long. 151.879
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 7 no. non-Euc. 0		
Eucalypts	n/a				
Non-eucalypts	n/a n/a n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5			
Canopy	n/a		canopy (m) 14 % of benchmark n/a	2.5	5
Sub-canopy	n/a		sub-canopy (m) n/a % of benchmark n/a	2.5	
Recruitment of canopy species (%)	100 %	5	% recruitment 66.6 % of benchmark 67	3	3
Tree canopy cover (%)		5			
Canopy	n/a		% canopy cover 57.5 % of benchmark n/a	5	5
Sub-canopy	n/a		% subcanopy cover n/a % of benchmark n/a		
Shrub cover (%)	n/a	5	% shrub cover 12.5 % of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 95 % of benchmark n/a	5	5
Native plant spp. richness		20			
Trees	n/a		no. tree spp. 3 % of benchmark n/a	5	
Shrubs	n/a		no. shrub spp. 3 % of benchmark n/a	5	
Grass	n/a		no. grass spp. 5 % of benchmark n/a	5	
Other/forbs	n/a		no. other/forb spp. 8 % of benchmark n/a	5	20
Non-native plant cover (%)	0 %	10	% non-native plant cover 10	5	5
Native perennial grass cover (%)	n/a	5	% native grass cover 22.6 % of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 50 % of benchmark n/a	5	5
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100			73
BioCondition Class					

Site number: 180713 - 3 (FID I)		Benchmark (13.12.8)		BioCondition Plot		Lat. -28.582	Long. 151.857
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score		
Large trees		15	no. Euc. 11 no. non-Euc. 0				
Eucalypts	43 cm (DBH)						
Non-eucalypts	43 /hectare 53 cm (DBH) 2 /hectare		% of benchmark 51.2	10	10		
Tree canopy height (m)		5					
Canopy	19 m (canopy)		canopy (m) 25 % of benchmark 131.6	5	5		
Sub-canopy	n/a		sub-canopy (m) 8 % of benchmark n/a				
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5		
Tree canopy cover (%)		5					
Canopy	50 %		% canopy cover 4.6 % of benchmark 9.2	0	0		
Sub-canopy	n/a		% subcanopy cover 0.5 % of benchmark n/a				
Shrub cover (%)	18 %	5	% shrub cover 0 % of benchmark 0.0	0	0		
Coarse woody debris (m/ha)	491 m/ha	5	m cwd 2520 % of benchmark 513.2	2	2		
Native plant spp. richness		20					
Trees	3 spp.		no. tree spp. 4 % of benchmark 133.3	5			
Shrubs	4 spp.		no. shrub spp. 6 % of benchmark 150.0	5			
Grass	12 spp.		no. grass spp. 15 % of benchmark 125.0	5			
Other/forbs	23 spp.		no. other/forb spp. 8 % of benchmark 34.8	2.5	17.5		
Non-native plant cover (%)	0	10	% non-native plant cover 50	0	0		
Native perennial grass cover (%)	15 %	5	% native grass cover 25.6 % of benchmark 170.7	5	5		
Organic litter cover (%)	83 %	5	% organic litter cover 30.8 % of benchmark 37.1	3	3		
Landscape context (fragmented)							
Patch size		10					
Context		5					
Connectivity		5					
Total Score		100			47.5		
BioCondition Class							



Site number: 180713 - 4 (FID 12 replacement)	No benchmark 13.3.1 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.753	Long. 151.857
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 26 no. non-Euc. 0		
Eucalypts	n/a				
Non-eucalypts	n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 19		
Canopy	n/a		% of benchmark n/a	2.5	5
Sub-canopy	n/a		sub-canopy (m) n/a		
			% of benchmark n/a	2.5	
Recruitment of canopy species (%)	100 %	5	% recruitment 100.0		
			% of benchmark 100	5	5
Tree canopy cover (%)		5	% canopy cover 47.0		
Canopy	n/a		% of benchmark n/a	5	5
Sub-canopy	n/a		% subcanopy cover n/a		
			% of benchmark n/a		
Shrub cover (%)	n/a	5	% shrub cover 31.0		
			% of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 705		
			% of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 3		
Trees	n/a		% of benchmark n/a	5	
Shrubs	n/a		no. shrub spp. 10		
Grass	n/a		% of benchmark n/a	5	
Other/forbs	n/a		no. grass spp. 8		
			% of benchmark n/a	5	
			no. other/forb spp. 9		
			% of benchmark n/a	5	20
Non-native plant cover (%)	0 %	10	% non-native plant cover 40	3	3
Native perennial grass cover (%)	n/a	5	% native grass cover 14		
			% of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 9		
			% of benchmark n/a	5	5
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100			73
BioCondition Class					

Site number: 190713 - 1 (FID 85)		Benchmark (13.12.9)		BioCondition Plot		Lat. -28.710	Long. 151.830
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score		
Large trees		15	no. Euc. 17				
Eucalypts	43 cm (DBH)		no. non-Euc. 0				
Non-eucalypts	45 /hectare		% of benchmark 75.6	10	10		
	n/a						
	n/a						
Tree canopy height (m)		5	canopy (m) 22				
Canopy	22 m (canopy)		% of benchmark 100.0	5	5		
Sub-canopy	n/a		sub-canopy (m) n/a				
			% of benchmark n/a				
Recruitment of canopy species (%)	100 %	5	% recruitment 100				
			% of benchmark 100	5	5		
Tree canopy cover (%)		5	% canopy cover 51.5				
Canopy	60 %		% of benchmark 85.8	5	5		
Sub-canopy	n/a		% subcanopy cover n/a				
			% of benchmark n/a				
Shrub cover (%)	34 %	5	% shrub cover 19				
			% of benchmark 55.9	5	5		
Coarse woody debris (m/ha)	491 m/ha	5	m cwd 650				
			% of benchmark 132.4	5	5		
Native plant spp. richness		20	no. tree spp. 5				
Trees	4 spp.		% of benchmark 125.0	5			
Shrubs	8 spp.		no. shrub spp. 6				
Grass	9 spp.		% of benchmark 75.0	2.5			
Other/forbs	21 spp.		no. grass spp. 11				
			% of benchmark 122.2	5			
			no. other/forb spp. 11				
			% of benchmark 52.4	2.5	15		
Non-native plant cover (%)	0	10	% non-native plant cover 7.5	5	10		
Native perennial grass cover (%)	15 %	5	% native grass cover 3				
			% of benchmark 20.0	1	5		
Organic litter cover (%)	79 %	5	% organic litter cover 51.6				
			% of benchmark 65.3	5	5		
Landscape context (fragmented)							
Patch size		10					
Context		5					
Connectivity		5					
Total Score		100			70		
BioCondition Class							

Site number: 190713 - 2 (FID E)	No benchmark 13.12.6 (full scores have been applied ex. Recruitment and non-native cover)		BioCondition Plot	Lat. -28.711	Long. 151.832
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 5 no. non-Euc. 0		
Eucalypts	n/a				
Non-eucalypts	n/a n/a n/a		% of benchmark n/a	15	15
Tree canopy height (m)		5	canopy (m) 20		
Canopy	n/a		% of benchmark n/a	2.5	5
Sub-canopy	n/a		sub-canopy (m) 4 % of benchmark n/a	2.5	
Recruitment of canopy species (%)	100 %	5	% recruitment 100.0 % of benchmark 100	5	5
Tree canopy cover (%)		5	% canopy cover 18.0		
Canopy	n/a		% of benchmark n/a	5	5
Sub-canopy	n/a		% subcanopy cover 14 % of benchmark n/a		
Shrub cover (%)	n/a	5	% shrub cover 8.5 % of benchmark n/a	5	5
Coarse woody debris (m/ha)	n/a	5	m cwd / ha 300 % of benchmark n/a	5	5
Native plant spp. richness		20	no. tree spp. 6		
Trees	n/a		% of benchmark n/a	5	
Shrubs	n/a		no. shrub spp. 6		
Grass	n/a		% of benchmark n/a	5	
Other/forbs	n/a		no. grass spp. 12		
			% of benchmark n/a	5	
			no. other/forb spp. 8		
			% of benchmark n/a	5	20
Non-native plant cover (%)	0 %	10	% non-native plant cover 7.5	5	5
Native perennial grass cover (%)	n/a	5	% native grass cover 36 % of benchmark n/a	5	5
Organic litter cover (%)	n/a	5	% organic litter cover 31 % of benchmark n/a	5	5
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100			75
BioCondition Class					

Site number: BC1 Connolly Dam	No benchmark 13.11.8, 13.12.8 benchmark used instead		BioCondition Plot	Lat. -28.356	Long. 152.002
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score
Large trees		15	no. Euc. 35 no. non-Euc. 0		
Eucalypts	43 cm (DBH) 43 /hectare				
Non-eucalypts	53 cm (DBH) 2 /hectare		% of benchmark 77.8	10	10
Tree canopy height (m)		5			
Canopy	19 m (canopy)		canopy (m) 17.5 % of benchmark 92.1	5	5
Sub-canopy	n/a		subcanopy (m) n/a % of benchmark n/a		
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5
Tree canopy cover (%)		5			
Canopy	50 %		% canopy cover 51.0 % of benchmark 102.0	5	5
Sub-canopy	n/a		% subcanopy cover 15 % of benchmark n/a		
Shrub cover (%)	18 %	5	% shrub cover 2 % of benchmark 10.0	3	3
Coarse woody debris (m/ha)	491 m/ha	5	m cwd 70 % of benchmark 14.3	2	2
Native plant spp. richness		20			
Trees	3 spp.		no. tree spp. 3 % of benchmark 100.0	5	
Shrubs	4 spp.		no. shrub spp. 6 % of benchmark 150.0	5	
Grass	12 spp.		no. grass spp. 4 % of benchmark 33.3	2.5	
Other/forbs	23 spp.		no. other/forb spp. 13 % of benchmark 56.5	2.5	15
Non-native plant cover (%)	0	10	% non-native plant cover 1	10	10
Native perennial grass cover (%)	15 %	5	% native grass cover 62.6 % of benchmark 417.3	5	5
Organic litter cover (%)	83 %	5	% organic litter cover 25.6 % of benchmark 30.8	3	3
Landscape context (fragmented)					
Patch size		10			
Context		5			
Connectivity		5			
Total Score		100			63
BioCondition Class					

Site number: BC2 Stanthorpe Industrial Estate		Benchmark (13.12.9)		BioCondition Plot		Lat. -28.658	Long. 151.906
Attribute	Threshold	Weighting (%)	Value	Sub-score	Score		
Large trees		15	no. Euc. 30 no. non-Euc. 0				
Eucalypts	43 cm (DBH)						
Non-eucalypts	45 /hectare n/a n/a		% of benchmark 133.3	15	15		
Tree canopy height (m)		5					
Canopy	22 m (canopy)		canopy (m) 22 % of benchmark 100.0	5	5		
Sub-canopy	n/a		sub-canopy (m) n/a % of benchmark n/a				
Recruitment of canopy species (%)	100 %	5	% recruitment 100 % of benchmark 100	5	5		
Tree canopy cover (%)		5					
Canopy	60 %		% canopy cover 59.8 % of benchmark 99.7	5	5		
Sub-canopy	n/a		% subcanopy cover n/a % of benchmark n/a				
Shrub cover (%)	34 %	5	% shrub cover 40 % of benchmark 117.6	5	5		
Coarse woody debris (m/ha)	491 m/ha	5	m cwd 880 % of benchmark 179.2	5	5		
Native plant spp. richness		20					
Trees	4 spp.		no. tree spp. 4 % of benchmark 100.0	5			
Shrubs	8 spp.		no. shrub spp. 5 % of benchmark 62.5	2.5			
Grass	9 spp.		no. grass spp. 4 % of benchmark 44.4	2.5			
Other/forbs	21 spp.		no. other/forb spp. 15 % of benchmark 71.4	2.5	12.5		
Non-native plant cover (%)	0	10	% non-native plant cover 0	10	10		
Native perennial grass cover (%)	15 %	5	% native grass cover 22.5 % of benchmark 150.0	5	5		
Organic litter cover (%)	79 %	5	% organic litter cover 22.5 % of benchmark 28.5	3	3		
Landscape context (fragmented)							
Patch size		10					
Context		5					
Connectivity		5					
Total Score		100			70.5		
BioCondition Class							