

environmental management



## Property Map of Assessable Vegetation

Carmichael Coal Rail Project  
Separable Proportion 1 (SP1)

6396 E  
July 2012  
Adani Mining Pty Ltd



## Document Control

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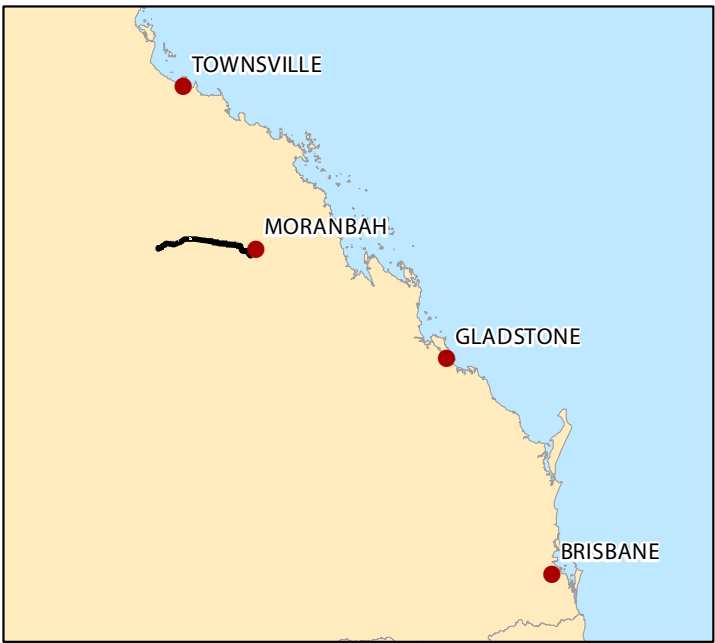
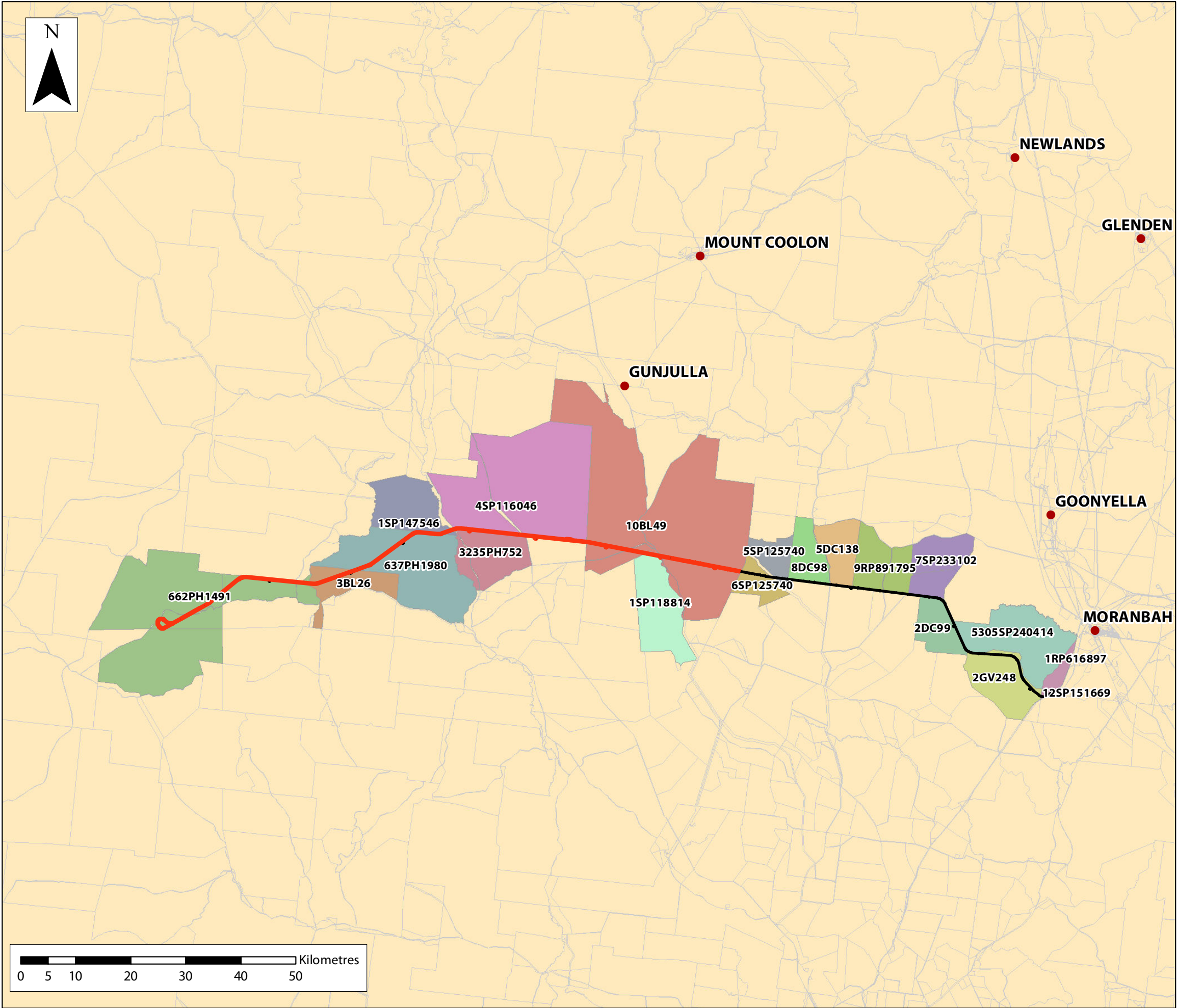
# I. Introduction

The Saunders Havill Group (SHG) was engaged by Adani Mining Pty Ltd (Adani) to prepare Complex Property Maps of Assessable Vegetation (PMAV) to support requested Regional Ecosystem (RE) mapping changes for the Carmichael Coal Rail Project investigation corridor. The Carmichael Coal Rail Project has been granted a Rail Feasibility Investigators Authority (RFIA) by the Chief Executive of the Department of Transport and Main Roads who administers the *Transport Infrastructure Act 1994*. The RFIA covers a 500m wide corridor extending from the proposed mine (EPC 1690) to the existing or national rail infrastructure at Moranbah (Refer Plan 1).

This report has been prepared for Separable Proportion 1 (SP – 1) of the rail corridor and describes field survey effort and site based observations supporting proposed changes to RE mapping. The field results detail information integral to the impact assessment process for the proposed rail corridor. Proposed RE mapping changes detail the vegetation communities present along SP-1. In addition reported Transect data incorporates information on the structural composition and condition of vegetation communities. This information is important when considering impact to ecological values and determining the areas potential to support species of conservation significance.

Field surveys were targeted to a 95m wide investigation area along the proposed rail corridor. Access was obtained via mutual agreement between Adani and the landholders. Reporting is per the requirements outlined within the Application Kit for a Property Map of Assessable Vegetation (2004) and the *Vegetation Management Act 1999* with reporting separated on a property basis. The following properties make up SP – 1:

1. Moray Downs (Lot662 on PH1491);
2. Cassiopeia Station Lot 3 on BL26);
3. Elgin Downs Stud (Lot 637 on PH1980);
4. Lot 1 on SP147546;
5. Old Twin Hills Holding (Lot 3235 on PH752);
6. Disney (Lot 4 on SP116046);
7. Avon Downs (Lot 10 on BL49); and
8. Talki Station (Lot 1 on SP118814).



**Legend**

Rail Alignment (SP1)

Rail Alignment (SP2)

PMAV Properties (SP1 & SP2)

DCDB



## 2. Overview

### 2.1. Bioregions

Queensland is divided into 13 Bioregions based on broad landscape patterns that reflect the major underlying geology, climate patterns and broad groupings of plants and animals. SP – 1 of the Carmichael Coal Rail Line is located within two bioregions (Refer Figure 1):

1. Dessert Upland Bioregion; and
2. Brigalow Belt Bioregion.

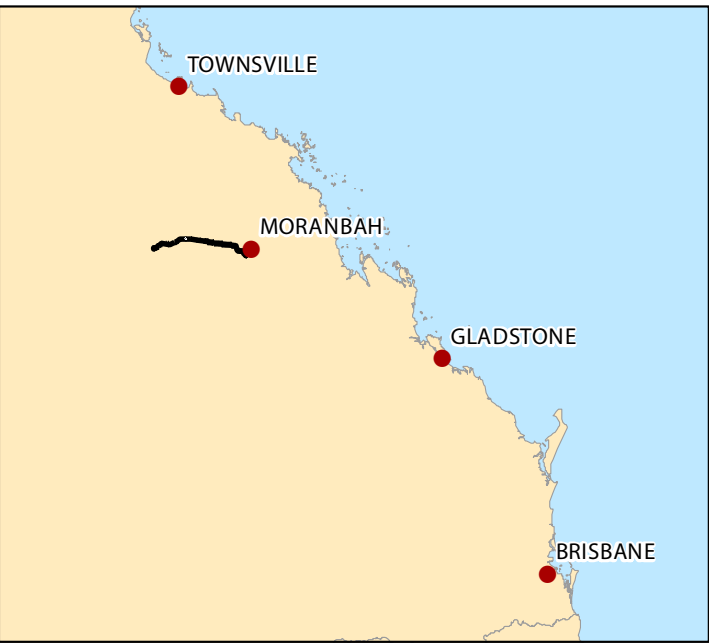
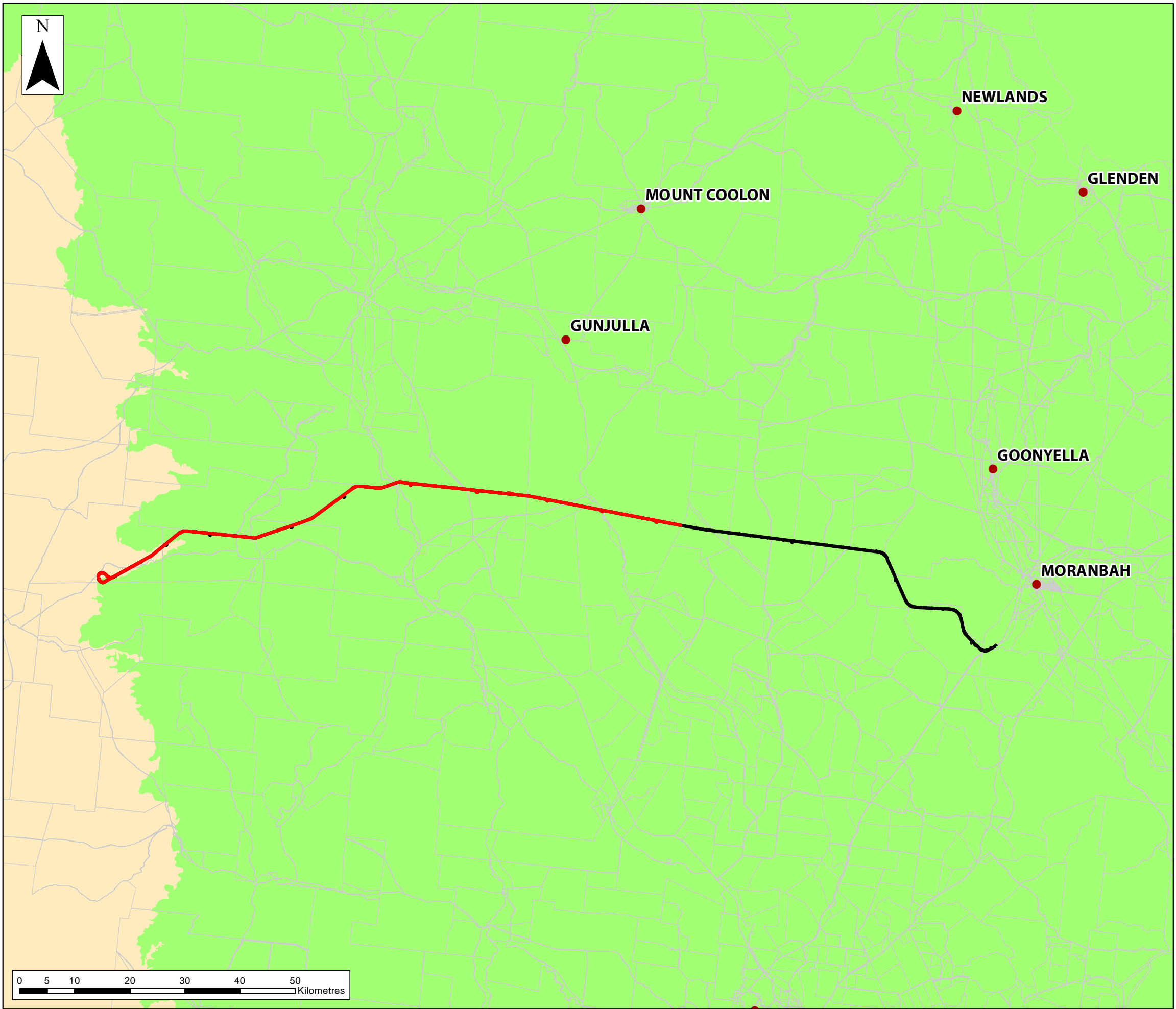
Regional Ecosystem descriptions vary subject to the Bioregion and associated landzone and vegetation characteristics. In some instances (particularly in close proximity to Bioregion borders) vegetation communities typically found in a particular bioregion (i.e. Dessert Uplands Bioregion) can also be found in the neighbouring bioregion (i.e. Brigalow Belt Bioregion). These vegetation communities are referred to as “Outliers” within the context of the *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland (Version 3.1)*. Due to the alignment spanning two bioregions specific attention was paid to the potential occurrence of RE “outliers”.

### 2.2. SP-1 Summary

A significant level of survey effort was completed along the SP-1 alignment to describe and characterise the condition of mapped remnant areas. Field surveys noted significant variations in current RE mapping, with the most notable changes associated with mapped composite REs (as typically expected). Single RE codes were assigned to surveyed polygons (where possible). In locations where vegetation communities have mixed, or are not easily discernible, mapping retains a composite RE description.

Significant areas of mapped remnant grassland occur along the rail corridor. These grasslands are highly variable in condition ranging from relatively intact with minor weed invasions to highly disturbed and dominated by Buffel Grass. Transect assessment methodologies were adapted to describe this change.

The Qld Government does not have a recognised process for the remapping of grassland REs at the property scale. However decision makers should consider levels of weed invasion and overall condition when reviewing these areas.



**Legend**

- Rail Alignment (SP1)
- Rail Alignment (SP2)
- Brigalow Belt
- Desert Uplands



## 3. Methodology

A detailed site assessment was conducted to accurately map and define vegetation into categories as defined by the Queensland Herbarium. The methodology is designed to ensure an accurate delineation of the separate polygons and ensure all supporting information responds to the requirements of a properly made Property Map of Assessable Vegetation submission. The following stages were undertaken:

1. Desktop Research;
2. Review of Aerial Imagery;
3. Detailed Vegetation Survey; and
4. GIS Mapping of Vegetation Communities.

### 3.1. Desktop Research

Prior to the site survey, the following vegetation based information sources were assessed to assist in the final determination of the on-site survey methodology:

- Existing vegetation mapping released under the provisions of the *Vegetation Management Act 1999* and Regional Ecosystem descriptions;
- Queensland Herbarium mapping methodology and procedures outlined in Neldner, V.J, Wilson, B.A., Thompson, E.J. and Dillewaard, H.A. (Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland);
- Environmental Database Searches for the *Environmental Protection and Biodiversity Conservation Act 1999*.
- Applicable Schedules of the *Nature Conservation (Wildlife) Regulation 1994*;
- Geology (250K), soils and Topographical Maps (as required); and
- Specific Queensland Herbarium searches for records of unknown or specific vegetation species listed to occur in the region.

### 3.2. Aerial Imagery Analysis

Adani Mining Pty Ltd provided contemporary aerial imagery for the Carmichael Rail Corridor flown in March 2011. Where the alignment varied from the flown corridor, Google Earth imagery was utilised to supplement information.

Aerial imagery was reviewed prior to field survey analysis to identify potential variations in vegetation community type and structure. Imagery was used to create draft vegetation polygons requiring analysis in the field. Survey effort was targeted to these locations to confirm Regional Ecosystems present.

### 3.3. Detailed Vegetation Survey

Following the broad delineation of vegetation communities using aerial photography and information obtained in the desktop review, a detailed vegetation survey was conducted to locate, describe and map the regional ecosystem polygons. Methodologies followed the Queensland Herbarium mapping methodology and procedures outlined in Neldner, V.J, Wilson, B.A., Thompson, E.J. and Dillewaard, H.A. (Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland – version 3.1).



### **3.3.1 Mapped Remnant Vegetation**

A transect methodology was adopted to gain an accurate representation of the canopy species within each vegetation polygon where the regional ecosystem (RE) code is disputed.

The assessment of remnant mapped areas involved a random transect 100m long and 50m wide within the mapped remnant polygon. Detailed data sheets and GPS markings were recorded within each site using standard Queensland Herbarium Map Assessment Request forms.

Information on the height and composition of vegetation was recorded at each GPS location with information later analysed to assess the extent of disturbance and accuracy of species canopy mix. All data was collected using a Trimble GEO-XT with sub 1m accuracy.

### **3.3.2 Mapped Grassland Communities**

Locations containing mapped grassland communities were assessed using a Secondary Transect methodology as detailed within Queensland Herbarium mapping methodology and procedures outlined in Neldner, V.J, Wilson, B.A., Thompson, E.J. and Dillewaard, H.A. (Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland – version 3.1).

### **3.3.3 Outliers**

The potential for “Outliers” was considered during field investigations with an area assigned as an outlier if:

- It does not match the description (in terms of dominant species and landzone) of an RE from the bioregion it occurs in, but does match the description from an adjacent bioregion, and
- Occupies an area in the bioregion of less than 1000 hectares, or if more than 1000 hectares, does not occur more than 50 kilometres from the bioregion boundary.

If an RE meets these description, area and/or distance requirements, it may be regarded as an outlier and coded with the regional ecosystem from the adjacent bioregion. The regional ecosystem status is calculated across the whole RE, including any occurrence of that RE as outliers in adjacent bioregions.

## **3.4. GIS Mapping of Vegetation Communities**

Filed survey data was reviewed in combination with aerial imagery to refine mapped vegetation polygons and assign RE codes. Where possible, reference data was obtained either in the field or through discussions with the Qld Herbarium. Where reference data was not available SHG ecologists drew on internal data sources collected during historical surveys within the region. Information was used to compare transect results and final remnant polygons assigned.



## 4. Moray Downs Results

The proposed rail corridor within Moray Downs commences at the proposed Carmichael Coal Mine and extends east. Contextually the Moray Downs property is located on the boundary of the Dessert Uplands Bioregion and Brigalow Belt Bioregion.

The rail corridor is predominantly located within disturbed agricultural paddocks mapped as Non remnant within Version 6.1 of Regional Ecosystem mapping. Vegetation values remaining within the property are largely associated with alluvial plains and watercourses associated with the Belyando River.

In addition, native grasslands with associated Brigalow are mapped on undulating plains. No large intact areas of 'Brigalow' were observed along the rail corridor, however small patches of this Endangered vegetation community were observed in the broader landscape. These 'Brigalow' areas have been largely cleared.

Within Moray Downs the remaining mapped remnant grasslands are highly variable in condition with some locations almost absent due to grazing pressures and dominance of perennial weed species.

The following summarises remnant mapped areas and proposed RE amendments within the Moray Downs Property.

**Table 1: Moray Downs Summary**

| Site                                  | Current RE Mapping<br>Version 6.1          | Current RE Mapping<br>Version 6.1 (Area) | RE Observed                                | RE Observed<br>(Area)            |
|---------------------------------------|--|--|--|----------------------------------|
| <b>Moray Downs Area A – Polygon 1</b> | Endangered RE 11.4.11/11.4.5/11.4.6/11.4.9 | 29.2 ha                                  | Of Concern 11.4.11                         | 29.2 ha                          |
| <b>Moray Downs Area B – Polygon 1</b> | Of Concern RE 11.4.11                      | 13 ha                                    | Of Concern 11.4.11                         | 13 ha                            |
| <b>Moray Downs Area C – Polygon 1</b> | Endangered RE 11.3.5/11.3.1/11.3.3/11.3.10 | 6 ha                                     | Least concern 11.3.5/<br>Of Concern 11.3.3 | 11.5 ha                          |
| <b>Moray Downs Area C – Polygon 2</b> | Endangered RE 11.3.3/11.3.1                | 5.5 ha                                   | Of Concern 11.3.3                          | <i>Included in above RE area</i> |
| <b>Moray Downs Area C – Polygon 3</b> | Endangered 11.3.25/11.3.37/11.3.1          | 1.9 ha                                   | Least concern 11.3.25/11.3.37              | 1.9 ha                           |



#### 4.I. Moray Downs Area A – Polygon I

**Table 2: Moray Downs Area A - Polygon 1 Summary**

| Site Description                 |   |                 |
|----------------------------------|---|-----------------|
| Location:                        | Moray Downs; Lot 662 on PH1491  |                 |
| Site Description:                | <p>The site is mapped as a composite vegetation community described as Endangered RE 11.4.11/11.4.5/11.4.6/11.4.9. This community is described as comprising of approximately 80% Of Concern 11.4.11, 10% Of Concern 11.4.5, 5% Of Concern 11.4.6 and 5% Endangered 11.4.9. Refer to Figure 1a-1b.</p> <p>The location is within an existing agricultural land holding. The areas soil and geological formation appears consistent with Landzone 4 described as Cainozoic clay deposits, usually forming level to gently undulating plains above current alluvial systems. These areas contain mainly Vertosols with gilgai microrelief, but includes small areas of thin sandy or loamy surfaced Sodosols and Chromosols.</p> <p>Species observed within the mapped Endangered polygon predominantly represent Regional Ecosystem 11.4.11 described as <i>Dichanthium sericum</i>, <i>astrebla spp.</i> and patchy <i>Acacia harpophylla</i>, <i>Eucalyptus coolabah</i> on Cainozoic clay plains. Species present are described via Transects 1, 2 &amp; 3 (Appendix A).</p> <p>Transects 1,2 &amp; 3 indicate areas of <i>Dichanthium sericeum</i> and other native grasses and forbs with patches of <i>Acacia harpophylla</i>. <i>Acacia harpophylla</i> individuals averaged 5m in height which is consistent with the height expected within examples of Of Concern RE 11.4.11.</p> <p>Remnants described as Endangered RE 11.4.9 should contain <i>Acacia harpophylla</i> forming a distinct canopy 11-17m in height. The examination of aerials show patches of RE 11.4.9 that are easily discernible from the patches of RE 11.4.11. Ground truthing confirmed that the patches identified as RE11.4.9 from aerial history were present in proximity to the survey area, however not within the 95m wide corridor</p> <p>The condition of the grassland areas surveyed showed varying degrees of disturbance with infestation of <i>Pennisetum ciliare</i> (Buffel Grass) ranging from 10%-90% cover.</p> <p>Refer to Transect 1, 2 and 3 in Appendix A and Figure 2a-2b for the proposed RE mapping changes.</p> |                 |
| Datum:                           | GDA94 (MGA55)   |                 |
| Eastings/Northings               | Eastings  | Northings       |
|                                  | 21° 55' 33.47"  | 146° 31' 10.28" |
| Regional Ecosystem Profile       |   |                 |
| Current RE Mapping (Version 6.1) | Endangered RE 11.4.11/11.4.5/11.4.6/11.4.9  |                 |
| Regional Ecosystem Observed:     | Of Concern RE 11.4.11   |                 |
| Width of RE:                     | Not linear (>50Ha)  |                 |

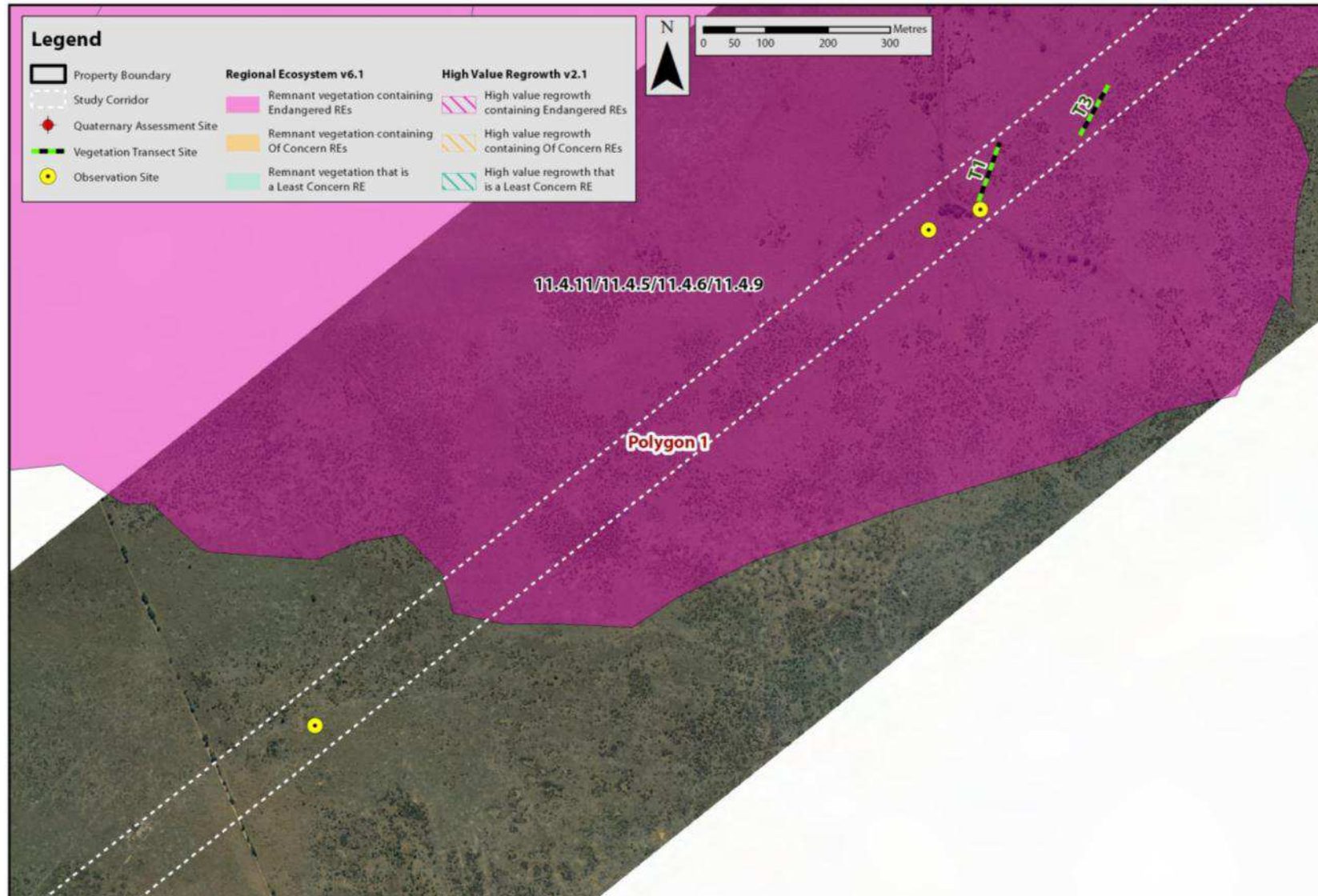


**Photo: Area A - Polygon 1**

*The area mapped as remnant grassland RE11.4.11 within the investigation area is consistent with Dichanthium sericeum grasslands with patchy Acacia harpophylla. Pennisetum ciliare (Buffel Grass) and Parthenium hysterophorus (Parthenium) were present in variable densities within the polygon.*



Figure 1a: Regional Ecosystem and Survey Effort (Moray Downs Area A – Polygon 1)





**Figure 1b: Regional Ecosystem and Survey Effort (Moray Downs Area A – Polygon 1)**

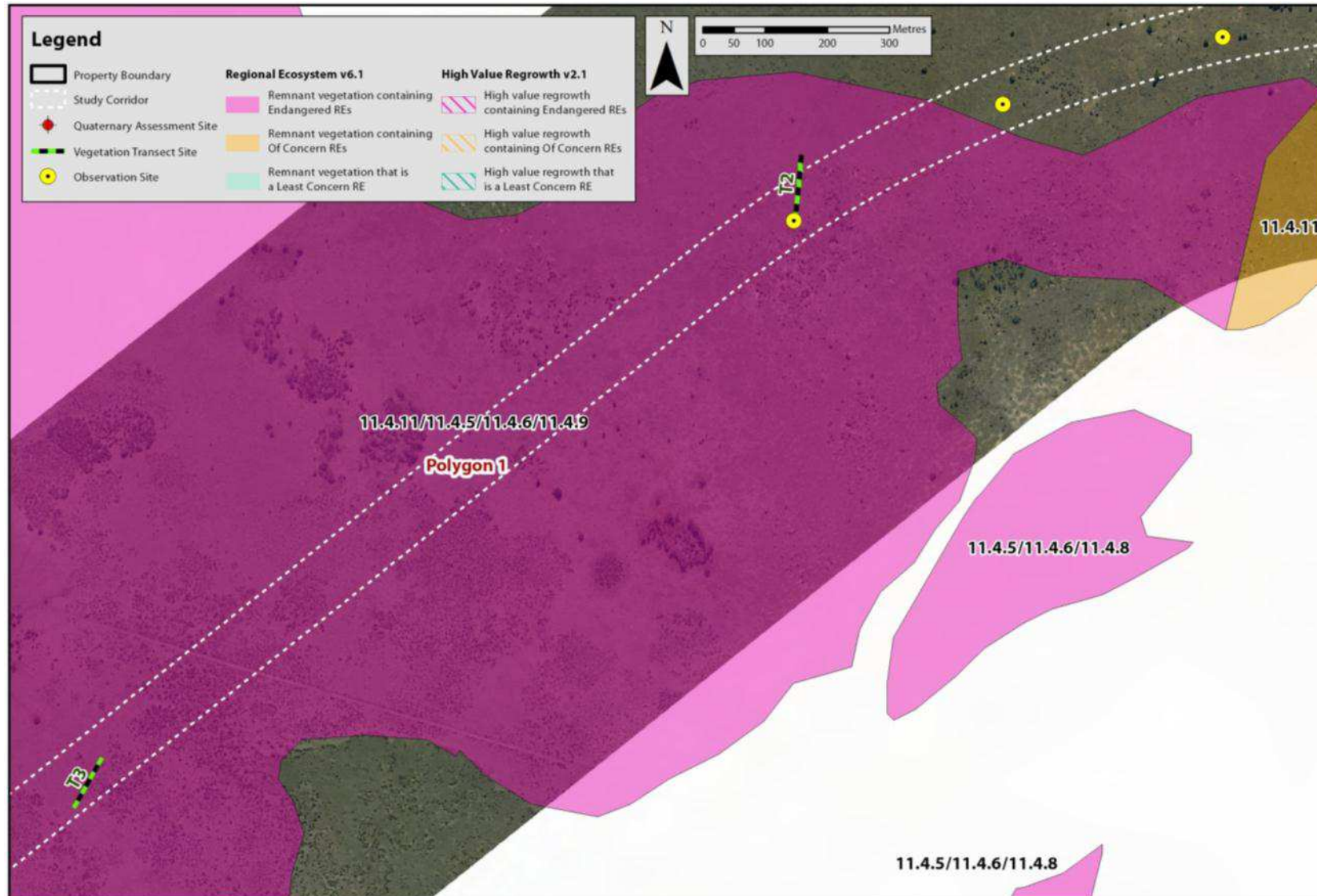
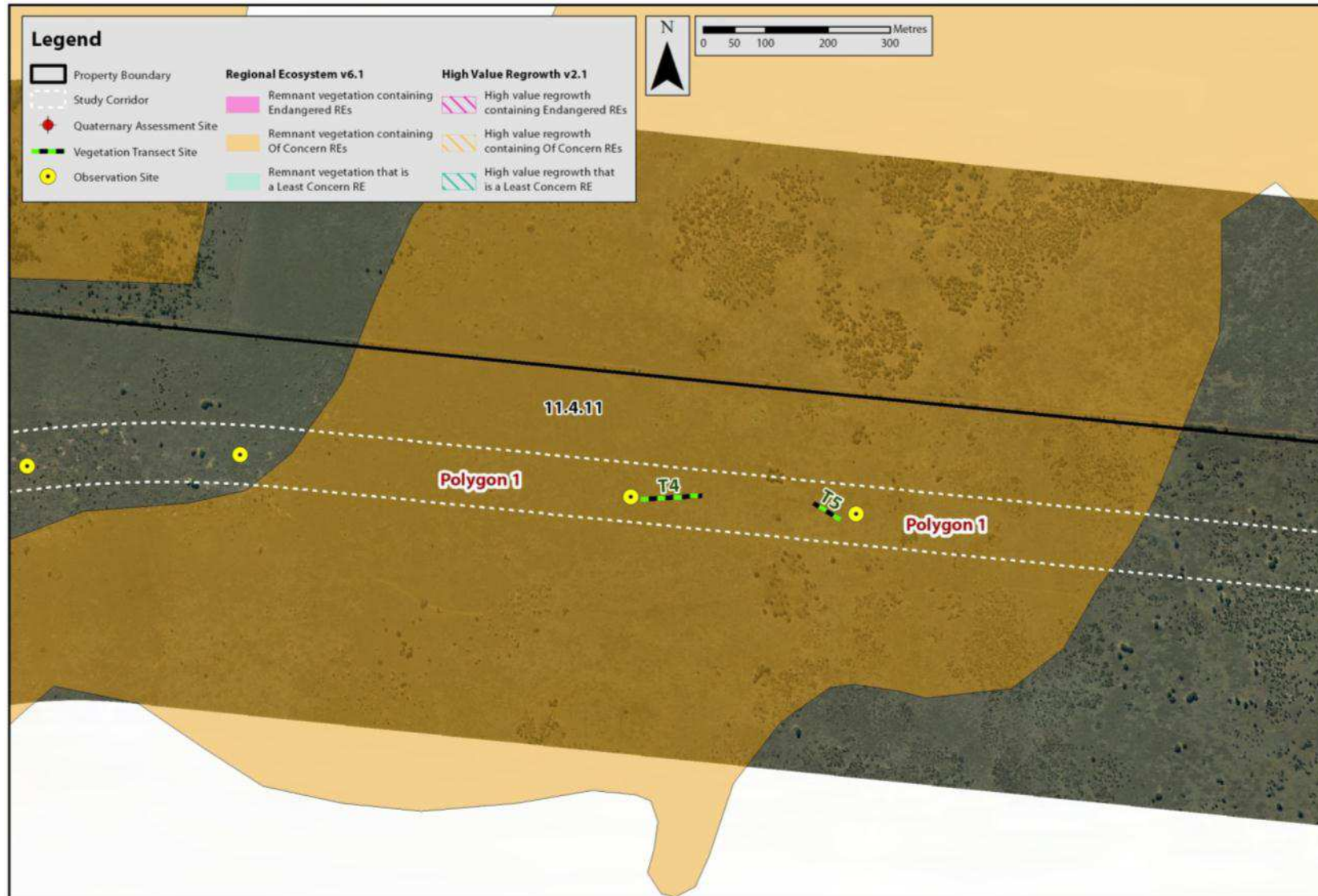


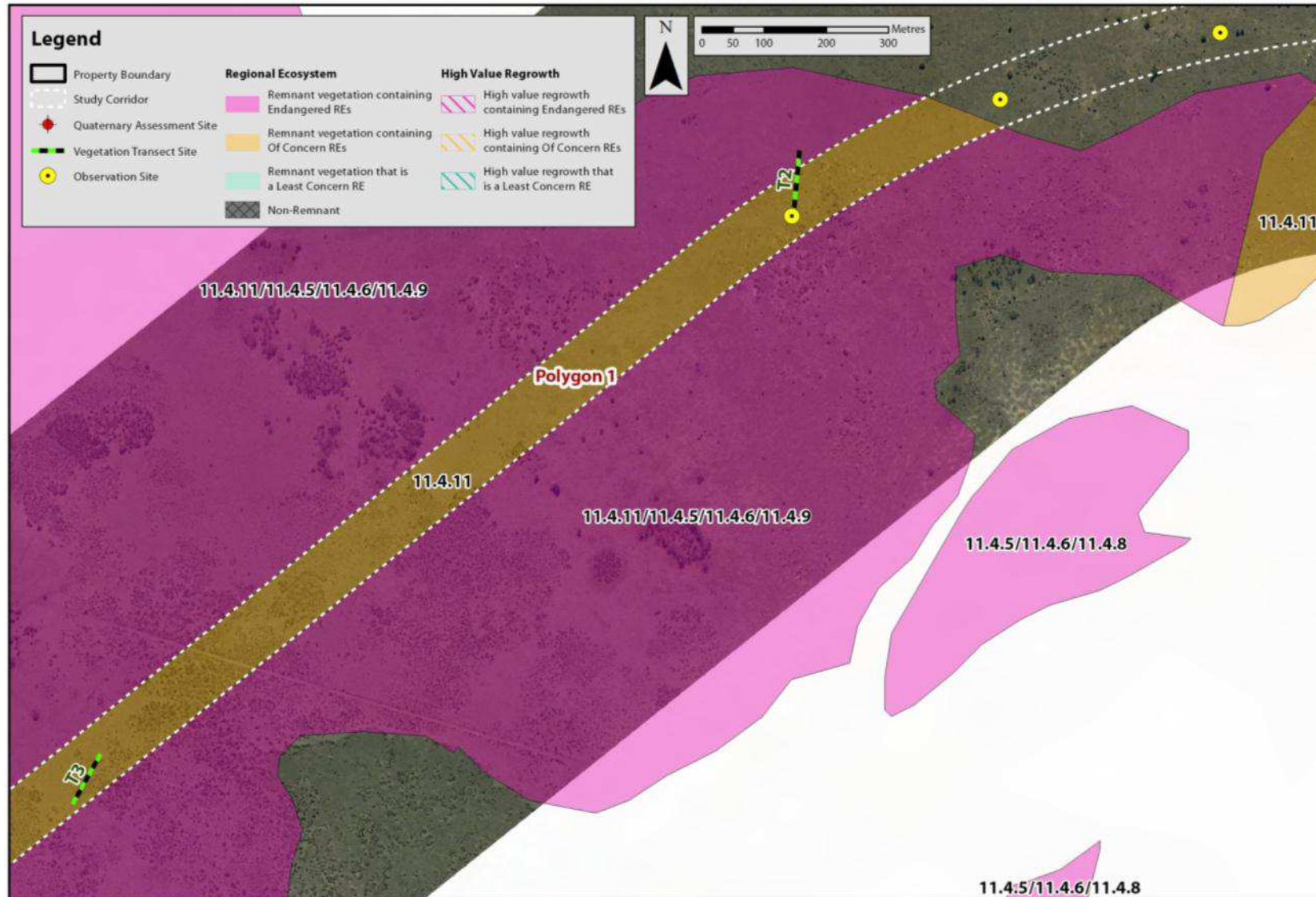


Figure 2a: Regional Ecosystem Changes (Moray Downs Area A – Polygon 1)





**Figure 2b: Regional Ecosystem Changes (Moray Downs Area A – Polygon 1)**





## 4.2. Moray Downs Area B – Polygon I

**Table 3: Moray Downs Area B - Polygon 1 Summary**

| Site Description                 |   |                 |
|----------------------------------|---|-----------------|
| Location:                        | Moray Downs; Lot 662 on PH1491  |                 |
| Site Description:                | <p>The site is located within a mapped vegetation community described as Of Concern RE 11.4.11 - <i>Dichanthium sericum</i>, <i>astrebla</i> spp. and patchy <i>Acacia harpophylla</i>, <i>Eucalyptus coolabah</i> on Cainozoic clay plains. (Figure 3).</p> <p>The mapped area is typical of Landzone 4 which is described as Cainozoic clay deposits, usually forming level to gently undulating plains above current alluvial systems.</p> <p>Species observed are generally consistent with RE mapping, however it is noted that large portions of the grassland includes introduced species, particularly <i>Pennisetum ciliare</i> (Buffel Grass). This is a result of historical agricultural pressures and associated grazing activities. Native grasses only comprise a small proportion of the grasses observed as reflected within Transects 4 &amp; 5 (Appendix A).</p> <p>The area observed is heavily grazed and disturbed through cattle usage.</p> <p>No Mapping amendments are proposed within Area B –Polygon 1. Refer to Transects 4 &amp; 5 in Appendix A and Figure 4.</p> |                 |
| Datum:                           | GDA94 (MGA55)   |                 |
| Eastings/Northings               | Eastings  | Northings       |
|                                  | 21° 54' 54.89"  | 146° 33' 11.64" |
| Regional Ecosystem Profile       |   |                 |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.4.11   |                 |
| Regional Ecosystem Observed:     | Of Concern RE 11.4.11   |                 |
| Width of RE:                     | Not linear (>50Ha)  |                 |

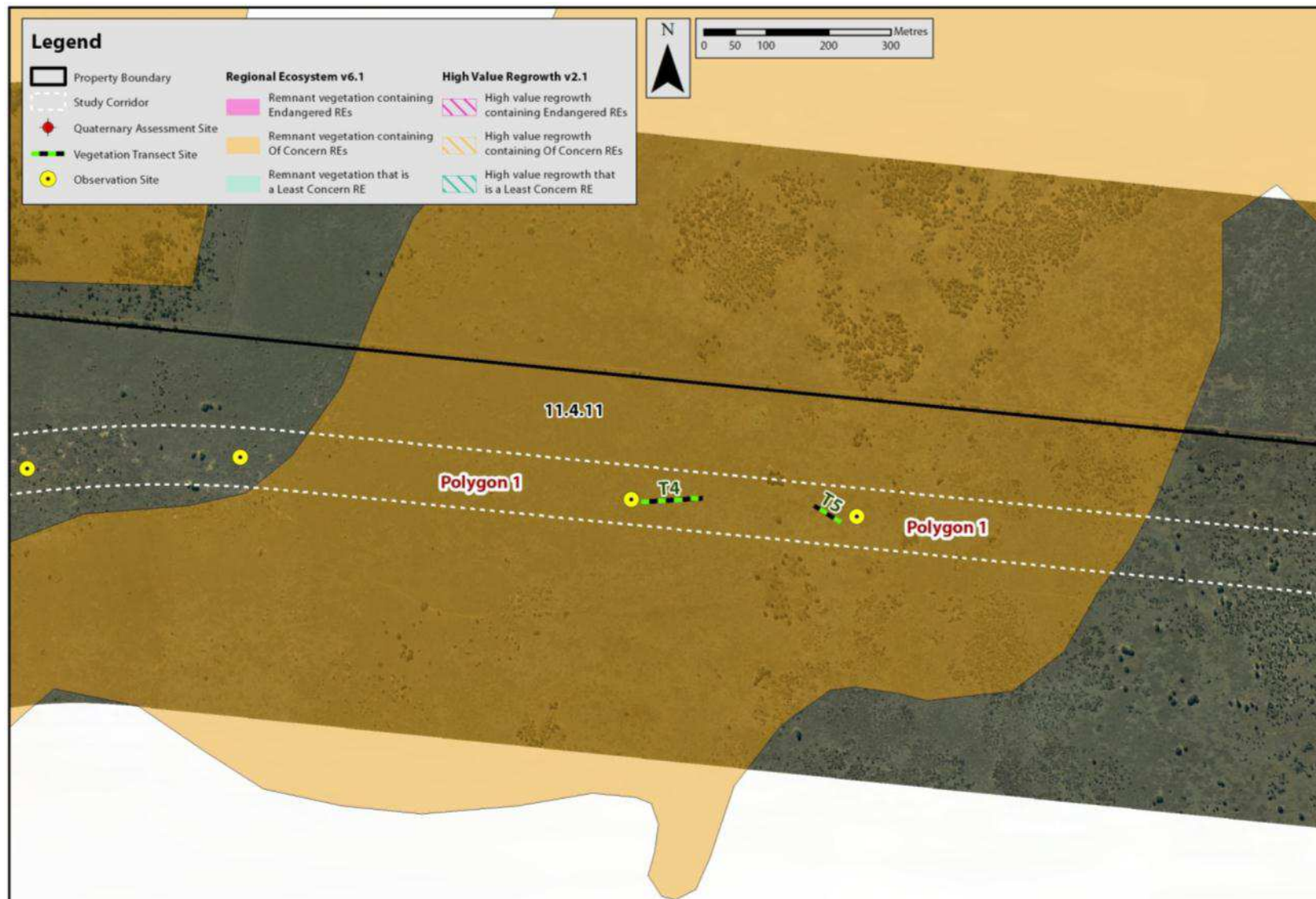


**Photo: Area B - Polygon 1**

*The area mapped as remnant grassland RE11.4.11 within the investigation area is dominated with *Pennisetum ciliare* (Buffel Grass).*

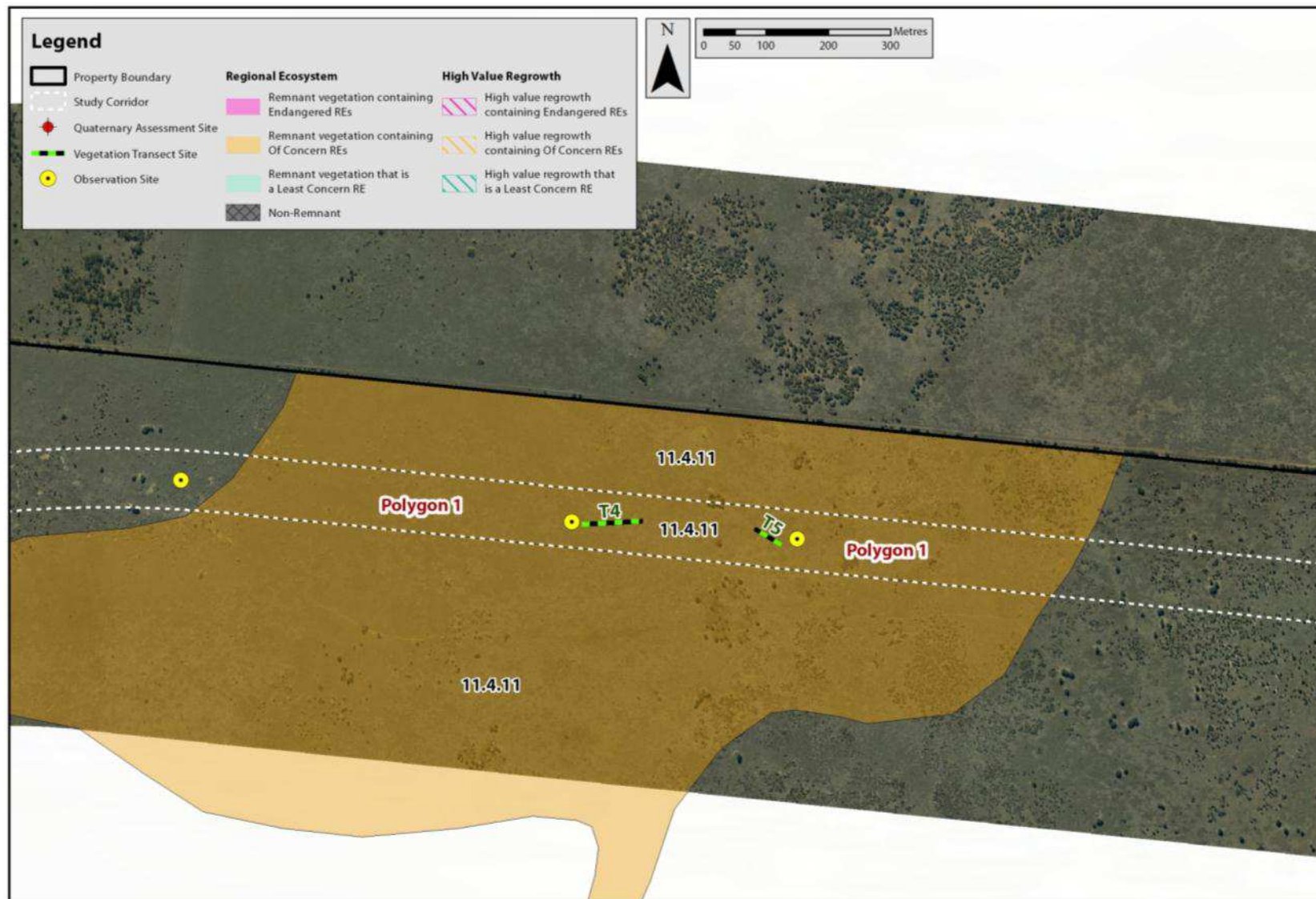


**Figure 3: Regional Ecosystem and Survey Effort (Moray Downs Area B – Polygon 1)**





**Figure 4: Regional Ecosystem Changes (Moray Downs Area B – Polygon 1)**





### 4.3. Moray Downs Area C – Polygon I

**Table 4: Moray Downs Area C – Polygon 1 Summary**

| Site Description                 |   |                 |
|----------------------------------|---|-----------------|
| Location:                        | Moray Downs; Lot 662 on PH1491  |                 |
| Site Description:                | <p>The site is located within a mapped vegetation community described as Endangered RE 11.3.5/11.3.1/11.3.3/11.3.10.</p> <p>Mapping indicates this broader polygon is comprised of 70% Least Concern RE 11.3.5, 10% Endangered RE 11.3.1, 10% Of Concern RE 11.3.3 and 10% Least Concern RE 11.3.10.</p> <p>The area is associated with a mapped stream order 1 waterway (Figure 5) and is consistent with the description of Landzone 3 which includes quaternary alluvial systems, including floodplains, alluvial plains, alluvial fans, terraces, levees, swamps, channels, closed depressions and fine textured palaeo-estuarine deposits.</p> <p>This vegetation Polygon is associated with the Belyando River and associated tributaries. Species observed and vegetation structure demonstrates this area is representative of Of Concern RE 11.3.3 due to the presence of a canopy dominated by <i>Eucalyptus coolabah</i> (Refer Transect 6). Disturbances associated with grazing and recent flooding were apparent within the survey area.</p> <p><i>Acacia harpophylla</i> (Brigalow) associated with Endangered RE11.3.1 was not recorded. This was expected given the relative unreliability of RE mapping within the region where 'Brigalow' forms a subdominant component of a composite RE community.</p> <p>Mapping amendments recommend this area is changed to Of Concern RE 11.3.3.</p> <p>Refer to Transect 6 in Appendix A and Figure 6 for the proposed changes.</p> |                 |
| Datum:                           | GDA94 (MGA55)   |                 |
| Eastings/Northings               | Eastings  | Northings       |
|                                  | 21° 55' 27.00"  | 146° 38' 47.64" |
| Regional Ecosystem Profile       |   |                 |
| Current RE Mapping (Version 6.1) | Endangered RE 11.3.5/11.3.1/11.3.3/11.3.10  |                 |
| Regional Ecosystem Observed:     | Of Concern 11.3.3   |                 |
| Width of RE:                     | Not linear (>50Ha)  |                 |



**Photo: Area C - Polygon 1**

*The area mapped as Eucalyptus coolabah RE11.3.3 within the investigation area.*



#### 4.4. Moray Downs Area C – Polygon 2

**Table 5: Moray Downs Area C – Polygon 2 Summary**

| Site Description                 |  |                 |
|----------------------------------|--|-----------------|
| Location:                        | Moray Downs; Lot 662 on PH1491   |                 |
| Site Description:                | <p>The site is located within an Endangered mapped vegetation community described as RE 11.3.3/11.3.1. Mapping indicates this area is comprised of 95% Of Concern 11.3.3 and 5% Endangered 11.3.1 (Figure 5).</p> <p>The vegetation community adjoins Area C – Polygon 1 and includes the mapped Stream Order 1 waterway. Species and vegetation structure observed are consistent across both polygons due to the presence of a canopy dominated by <i>Eucalyptus coolabah</i>. The area is consistent with Of Concern RE 11.3.3.</p> <p>Refer to Transect 7 in Appendix A and Figure 6 for the proposed changes.</p> |                 |
| Datum:                           | GDA94 (MGA55)  |                 |
| Eastings/Northings               | Eastings   | Northings       |
|                                  | 21°55' 26.39"  | 146° 38' 56.19" |
| Regional Ecosystem Profile       |  |                 |
| Current RE Mapping (Version 6.1) | Endangered RE 11.3.3/11.3.1  |                 |
| Regional Ecosystem Observed:     | Of Concern RE 11.3.3   |                 |
| Width of RE:                     | Not linear (>50Ha)   |                 |



**Photo: Area C - Polygon 2**

*The area mapped as Eucalyptus coolabah RE11.3.3 within the investigation area.*



## 4.5. Moray Downs Area C – Polygon 3

**Table 6: Moray Downs Area C – Polygon 3 Summary**

| Site Description                 |   |                |
|----------------------------------|---|----------------|
| Location:                        | Moray Downs; Lot 662 on PH1491  |                |
| Site Description:                | <p>The site is located within an Endangered mapped vegetation community described as RE 11.3.25/11.3.37/11.3.1. Mapping indicates the greater mapped polygon is comprised of 80% Least Concern RE 11.3.25, 10% Least Concern RE 11.3.37 and 10% Endangered RE 11.3.1.</p> <p>The site is representative of quaternary alluvial systems, including floodplains, alluvial plains, alluvial fans, terraces, levees, swamps, channels, closed depressions and fine textured palaeo-estuarine deposits. The vegetation polygon is associated with a stream order 2 watercourse (Figure 5).</p> <p>Unlike Area C – Polygons 1 &amp; 2, this area includes vegetation consistent with a composite RE of 11.3.25/11.3.37.</p> <p>Both RE 11.3.25 and RE 11.3.37 have a similar species composition and structure and are often found fringing watercourses. <i>Eucalyptus coolabah</i> and <i>Eucalyptus camaldulensis</i> are both dominant species within the canopy of RE 11.3.25 and RE 11.3.37 with both species recorded during the assessment.</p> <p><i>Acacia harpophylla</i> (Brigalow) was not observed and therefore RE11.3.1 is not present within the survey area.</p> <p>Refer to Quaternary Site 1 in Appendix A and Figure 6 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)   |                |
| Eastings/Northings               | Eastings  | Northings      |
|                                  | 21° 55' 29.08"  | 146° 39' 7.68" |
| Regional Ecosystem Profile       |   |                |
| Current RE Mapping (Version 6.1) | Endangered RE11.3.25/11.3.37/11.3.1   |                |
| Regional Ecosystem Observed:     | Least Concern RE 11.3.25/11.3.37  |                |
| Width of RE:                     | Not linear (>50Ha)  |                |

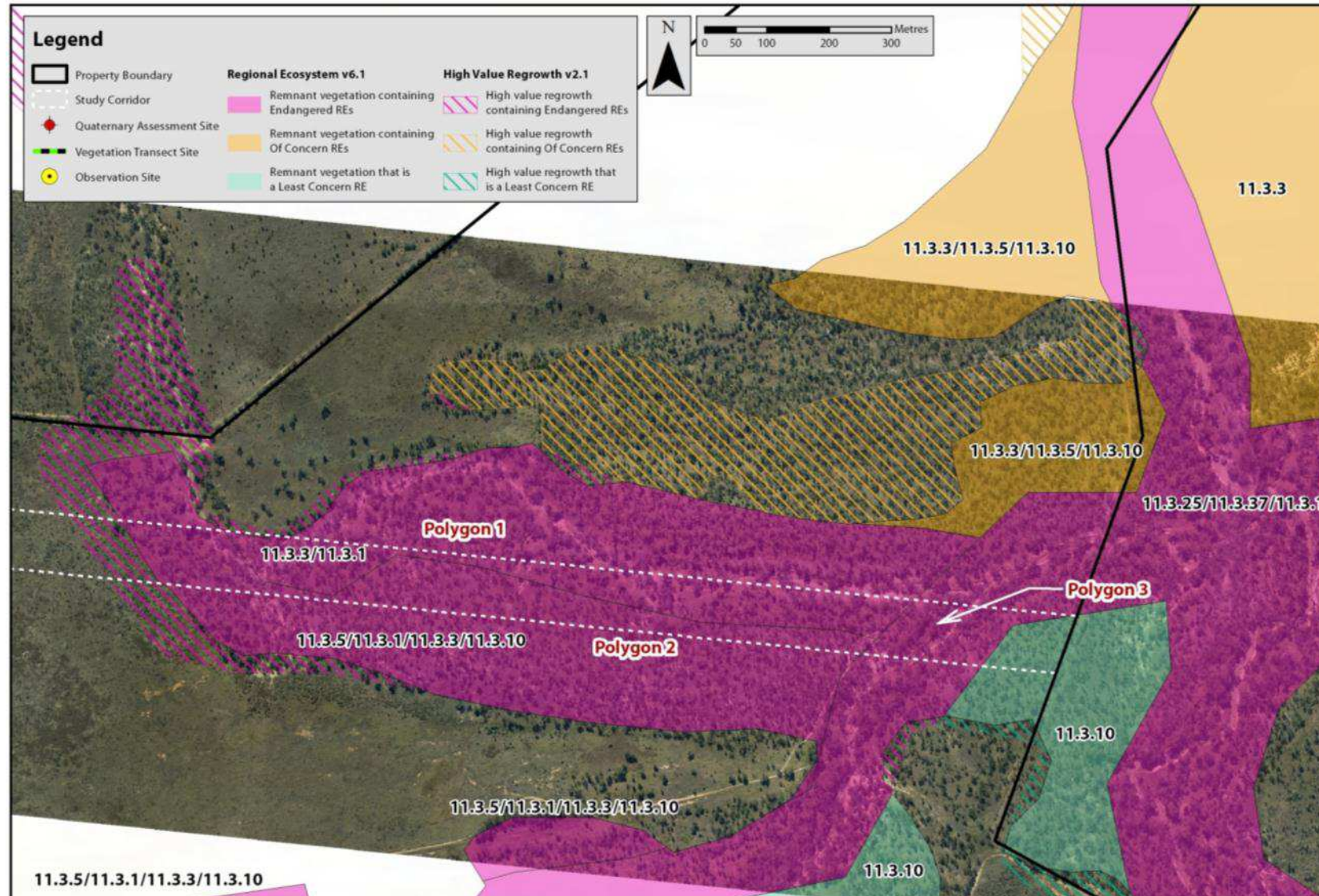


**Photo: Area C – Polygon 3**

*Watercourse with fringing vegetation consistent with RE 11.3.25/11.3.37. *Acacia harpophylla* was not observed within this remnant vegetation polygon.*

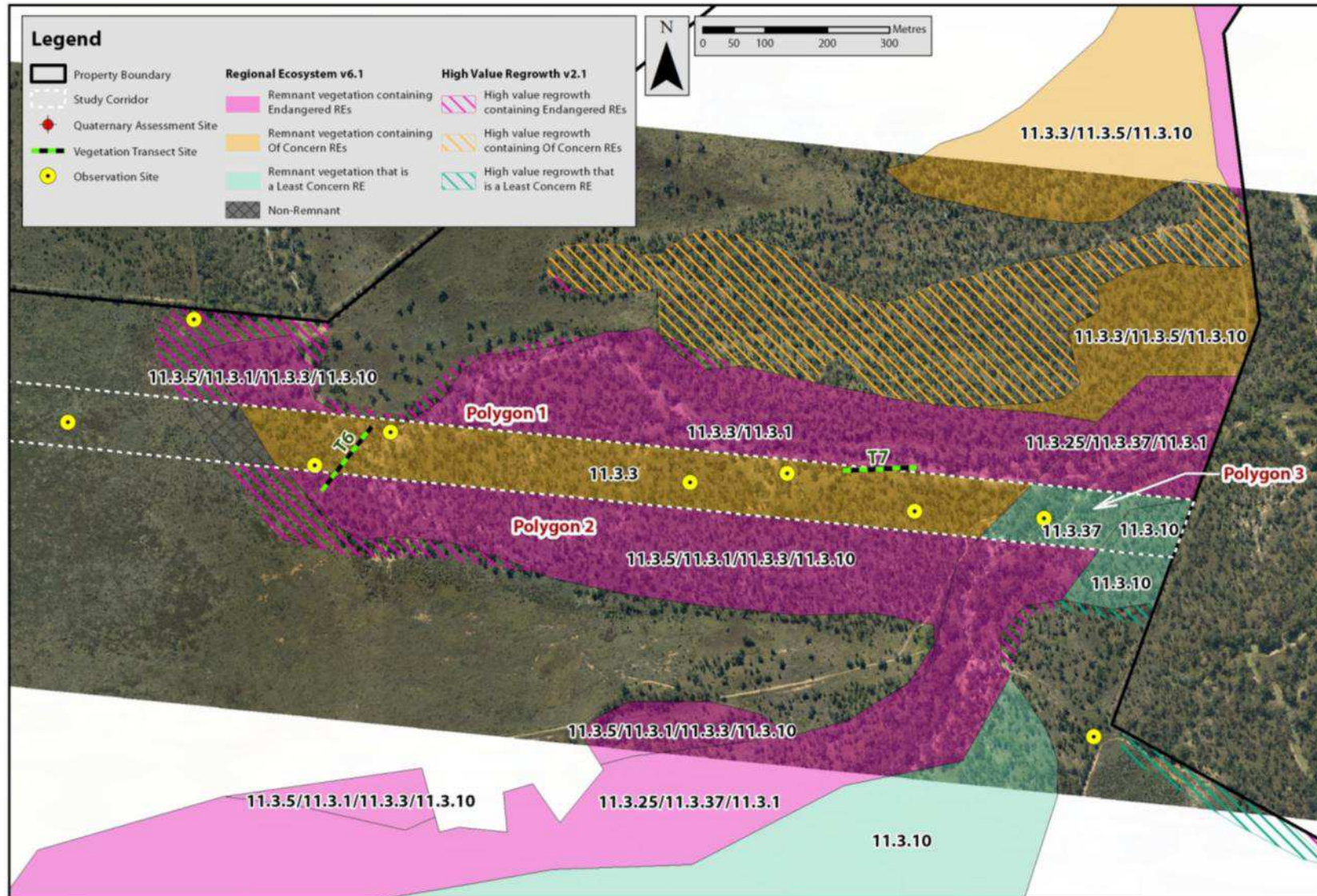


**Figure 5: Regional Ecosystem and Survey Effort (Moray Downs Area C – Polygon 1-3)**





**Figure 6: Regional Ecosystem Changes (Moray Downs Area C – Polygon 1-3)**





## 5. Cassiopeia

Cassiopeia adjoins Moray Downs within the vicinity of the Belyando River. Vegetation remaining within this property is associated with watercourses and broad alluvial plains. Remaining areas have been largely cleared for agricultural purposes.

Based on the detailed field assessment, the application site within the Cassiopeia Property was divided into three (3) assessment areas based on the location of the mapped remnant polygons and status of the regional ecosystem community.

The proposed mapping amendments and findings of detailed transect assessments are summarised below.

**Table 7: Cassiopeia Summary**

| Site   | Current RE Mapping<br>Version 6.1       | Current RE<br>(Area) | RE Observed                          | RE Observed<br>(Area) |
|--|---|----------------------|--------------------------------------|-----------------------|
| <b>Cassiopeia Downs<br/>Area A - Polygon 1</b> | Least Concern 11.3.10                   | 1.6 ha               | Least Concern 11.3.10                | 1.6 ha                |
| <b>Cassiopeia Downs<br/>Area A - Polygon 2</b> | Endangered RE<br>11.3.25/11.3.37/11.3.1 | 2.7 ha               | Of Concern 11.3.25/11.3.37           | 2.7 ha                |
| <b>Cassiopeia Downs<br/>Area B - Polygon 1</b> | Endangered High Value<br>Regrowth       | 0.4 ha               | Least Concern High Value<br>Regrowth | 0.4 ha                |
| <b>Cassiopeia Downs<br/>Area B - Polygon 2</b> | Least Concern High Value<br>Regrowth    | 0.2 ha               | Least Concern High Value<br>Regrowth | 0.2 ha                |
| <b>Cassiopeia Downs<br/>Area B - Polygon 3</b> | Least Concern<br>11.3.10/11.3.7         | 11.2 ha              | Least Concern 11.3.10/11.3.7         | 11.2 ha               |
| <b>Cassiopeia Downs<br/>Area C - Polygon 1</b> | Endangered RE<br>11.3.25/11.3.37/11.3.1 | 1.6 ha               | Of Concern 11.3.25/11.3.37           | 1.6 ha                |
| <b>Cassiopeia Downs<br/>Area C - Polygon 2</b> | Of Concern RE 11.3.3                    | 1.7 ha               | Of Concern RE 11.3.3                 | 1.4 ha                |



## 5.1. Cassiopeia Area A – Polygon I

**Table 8: Cassiopeia Area A - Polygon 1 Summary**

| Site Description                 |  |                |
|----------------------------------|--|----------------|
| Location:                        | Cassiopeia; Lot 3 on BL26  |                |
| Site Description:                | <p>The site is located within a mapped vegetation community described as of Least Concern RE 11.3.10 - <i>Eucalyptus brownii</i> woodland on alluvial plains (Refer to Figure 7). The polygon extends slightly into the Moray Downs property located to the west.</p> <p>The site is representative of quaternary alluvial systems, including floodplains, alluvial plains, alluvial fans, terraces, levees, swamps, channels, closed depressions and fine textured palaeo-estuarine deposits.</p> <p>The dominance of <i>Eucalyptus brownii</i> within the T1 layer and the presence of a native grass understorey comprised of <i>Aristida latifolia</i>, <i>Bothriochloa bladhii</i>, <i>Chloris truncata</i> and <i>Heteropogon contortus</i> confirms the presence of Least Concern RE 11.3.10 within this location.</p> <p>No Mapping amendments are proposed within Area A –Polygon 1. Refer to Quaternary Site 1 within Appendix B and Figure 7 for the location of the quaternary site.</p> |                |
| Datum:                           | GDA94 (MGA55)  |                |
| Eastings/Northings               | Eastings   | Northings      |
|                                  | 464361.35 m E  | 7575416.99 m S |
| Regional Ecosystem Profile       |  |                |
| Current RE Mapping (Version 6.1) | Least Concern RE 11.3.10   |                |
| Regional Ecosystem Observed:     | Least Concern RE 11.3.10   |                |
| Width of RE:                     | Not linear (<10Ha)   |                |



**Photo: Area A - Polygon 1**

*Eucalyptus brownii* dominated woodland with native grass understorey described as Least Concern RE 11.3.10.



## 5.2. Cassiopeia Area A – Polygon 2

**Table 9: Cassiopeia Area A - Polygon 2 Summary**

| Site Description                 |  |                |
|----------------------------------|--|----------------|
| Location:                        | Cassiopeia; Lot 3 on BL26  |                |
| Site Description:                | <p>Cassiopeia Area A – Polygon 2 is associated with an Endangered mapped vegetation community described as RE 11.3.25/11.3.37/11.3.1.</p> <p>The polygon is described as containing approximately 80% Least Concern 11.3.25, 10% Least Concern RE 11.3.37 and 10% Endangered RE 11.3.1 and is associated with a stream order 2 watercourse.</p> <p>Both RE 11.3.25 and RE 11.3.37 have a similar species composition and structure and are typically found fringing watercourse. <i>Eucalyptus coolabah</i> and <i>Eucalyptus camaldulensis</i> were observed as dominant species within the canopy of the surveyed vegetation. The dominance of these two species indicate the presence of a composite of RE 11.3.25 and RE 11.3.37.</p> <p><i>Acacia harpophylla</i> (Brigalow) was absent from within the investigation area and therefore Regional Ecosystem 11.3.1 was not observed in the area.</p> <p>Refer to Quaternary Site 2 within Appendix B and Figure 8 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)  |                |
| Eastings/Northings               | Eastings   | Northings      |
|                                  | 464517.47 m E  | 7575411.25 m S |
| Regional Ecosystem Profile       |  |                |
| Current RE Mapping (Version 6.1) | Endangered RE 11.3.25/11.3.37/11.3.1   |                |
| Regional Ecosystem Observed:     | Of Concern RE 11.3.25/11.3.37  |                |
| Width of RE:                     | Not linear (>50Ha)   |                |

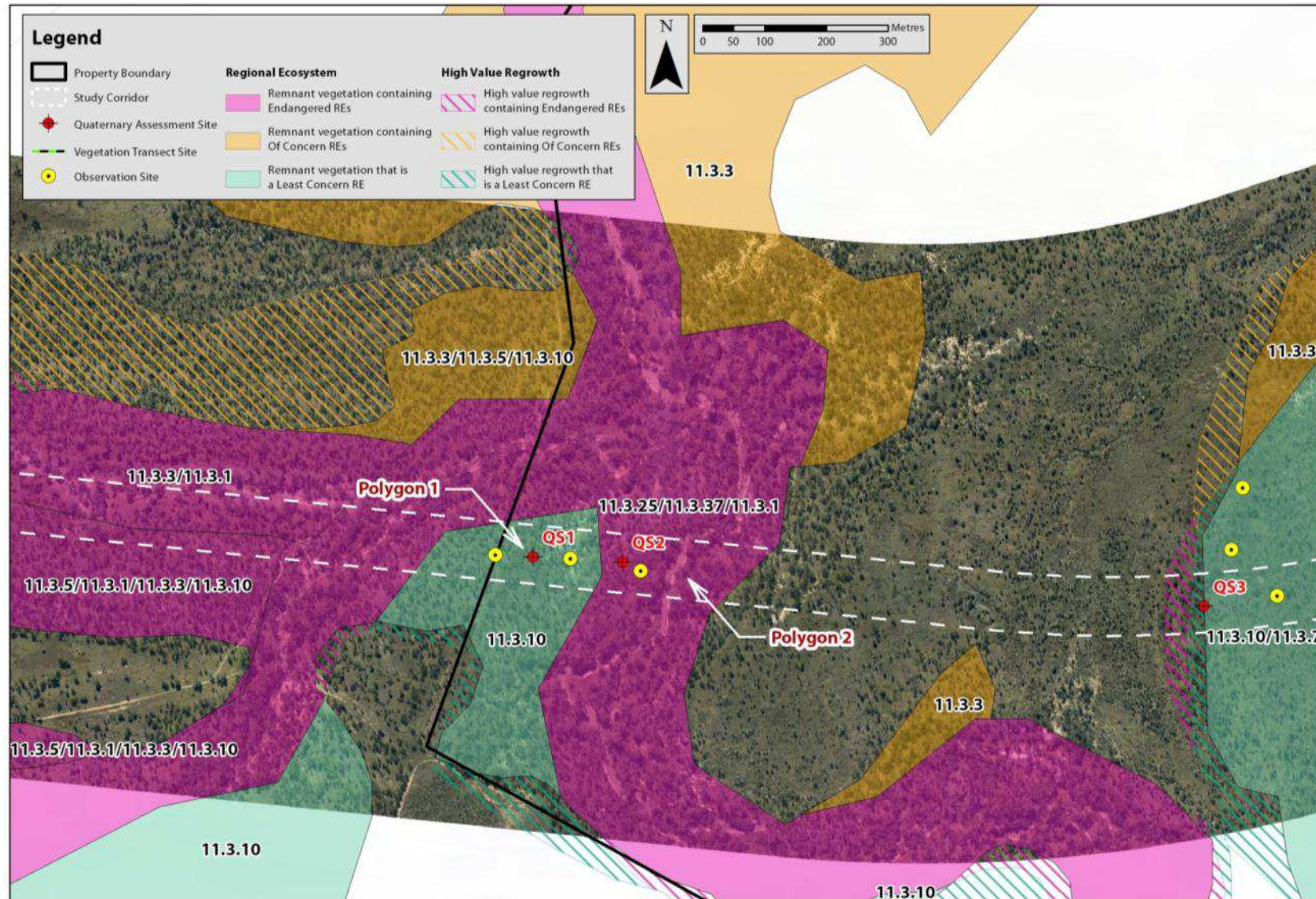


**Photo: Area A - Polygon2**

*Watercourse with fringing vegetation consistent with RE 11.3.25/11.3.37. *Acacia harpophylla* was not observed within this remnant vegetation polygon.*



**Figure 7** Regional Ecosystem and Survey Effort (Cassiopeia Area A – Polygon 1 & 2)







### 5.3. Cassiopeia Area B – Polygon I

**Table 10: Cassiopeia Area B - Polygon 1 Summary**

| Site Description                 |   |                |
|----------------------------------|---|----------------|
| Location:                        | Cassiopeia; Lot 3 on BL26   |                |
| Site Description:                | <p>The site is located within mapped regrowth vegetation described as Endangered High Value Regrowth. Refer to Figure 9.</p> <p>Species observed are consistent with a regrowth example of Least Concern RE 11.3.10/11.3.7 and includes <i>Corymbia</i>, <i>Acacia</i> and <i>Eremophila</i> species</p> <p>The area is used for cattle grazing and exhibits high levels of disturbance with dense infestations of <i>Pennisetum ciliare</i> (Buffel Grass) and <i>Parthenium hysterophorus</i> (Parthenium) observed within the ground layer. The number of stumps and fallen timber within the ground layer also indicates historical clearing practices.</p> <p>This location was assessed in conjunction with Cassiopeia Area B - Polygon 2. Refer to Quaternary Site 3 within Appendix B and Figure 10 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)   |                |
| Eastings/Northings               | Eastings  | Northings      |
|                                  | 465353.44 m E   | 7575332.85 m S |
| Regional Ecosystem Profile       |   |                |
| Current RE Mapping (Version 6.1) | Endangered High Value Regrowth  |                |
| Regional Ecosystem Observed:     | Least Concern High Value Regrowth   |                |
| Width of RE:                     | Not linear (<5Ha)   |                |



## 5.4. Cassiopeia Area B – Polygon 2

**Table 11: Cassiopeia Area B - Polygon 2 Summary**

| Site Description                 |   |                |
|----------------------------------|---|----------------|
| Location:                        | Cassiopeia; Lot 3 BL26  |                |
| Site Description:                | <p>The site is located within mapped regrowth described as Least Concern High Value Regrowth. Refer to Figure 9.</p> <p>Species observed are consistent with Least Concern RE 11.3.10/11.3.7 with the vegetation polygon forming part of the broader area of Least Concern High Value Regrowth described in Cassiopeia Area B – Polygon 1.</p> <p>A number of <i>Corymbia</i>, <i>Acacia</i> and <i>Eremophila</i> species were observed within the regrowth vegetation that is consistent with this composite RE type.</p> <p>As per Area B – Polygon 1 this area shows signs of historical thinning and disturbance and retains a weedy understory.</p> <p>Refer to Quaternary Site 3 within Appendix B and Figure 10 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)   |                |
| Eastings/Northings               | Eastings  | Northings      |
|                                  | 465443.35 m E   | 7575328.84 m S |
| Regional Ecosystem Profile       |   |                |
| Current RE Mapping (Version 6.1) | Least Concern High Value Regrowth   |                |
| Regional Ecosystem Observed:     | Least Concern High Value Regrowth   |                |
| Width of RE:                     | Not linear (<10Ha)  |                |



**Photo: Area B – Polygon 1 & 2**

*Area mapped as Endangered and Least Concern High value regrowth. Observed species consistent with RE 11.3.10/11.3.7*



## 5.5. Cassiopeia Area B – Polygon 3

**Table 12: Cassiopeia Area B - Polygon 3 Summary**

| Site Description                 |  |                |
|----------------------------------|--|----------------|
| Location:                        | Cassiopeia; Lot 3 BL26   |                |
| Site Description:                | <p>The site is located within a Least Concern mapped vegetation community described as RE 11.3.10/11.3.7. The broader polygon is described as containing approximately 50% Least Concern 11.3.10 and 50% Least Concern 11.3.7. Refer to Figure 9.</p> <p>Species composition and vegetation structure are consistent with a composite vegetation community of RE 11.3.10/11.3.7. The presence of <i>Corymbia dallachiana</i>, <i>Corymbia clarksonia</i> and <i>Eucalyptus brownii</i> within the T1 and T2 layers and <i>Acacia salicina</i>, <i>Acacia excelsa</i>, <i>Eremophila mitchellii</i> and <i>Carissa ovata</i> within the shrub layer is consistent with species associated with both least Concern RE 11.3.10 and Least Concern RE 11.3.7.</p> <p>The area is highly disturbed and is in poor condition with a large quantity of dead standing timber and dense weed infestations. <i>Pennisetum ciliare</i> and <i>Parthenium hysterophorus</i> are dominant within the ground layer. Heavy grazing pressure was also observed within the area.</p> <p>Refer to Quaternary Site 4 within Appendix B and Figure 10 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)  |                |
| Eastings/Northings               | Eastings   | Northings      |
|                                  | 466077.08 m E  | 7575514.21 m S |
| Regional Ecosystem Profile       |  |                |
| Current RE Mapping (Version 6.1) | Least Concern RE 11.3.10/11.3.7  |                |
| Regional Ecosystem Observed:     | Least Concern RE 11.3.10/11.3.7  |                |
| Width of RE:                     | Not linear (>50Ha)   |                |

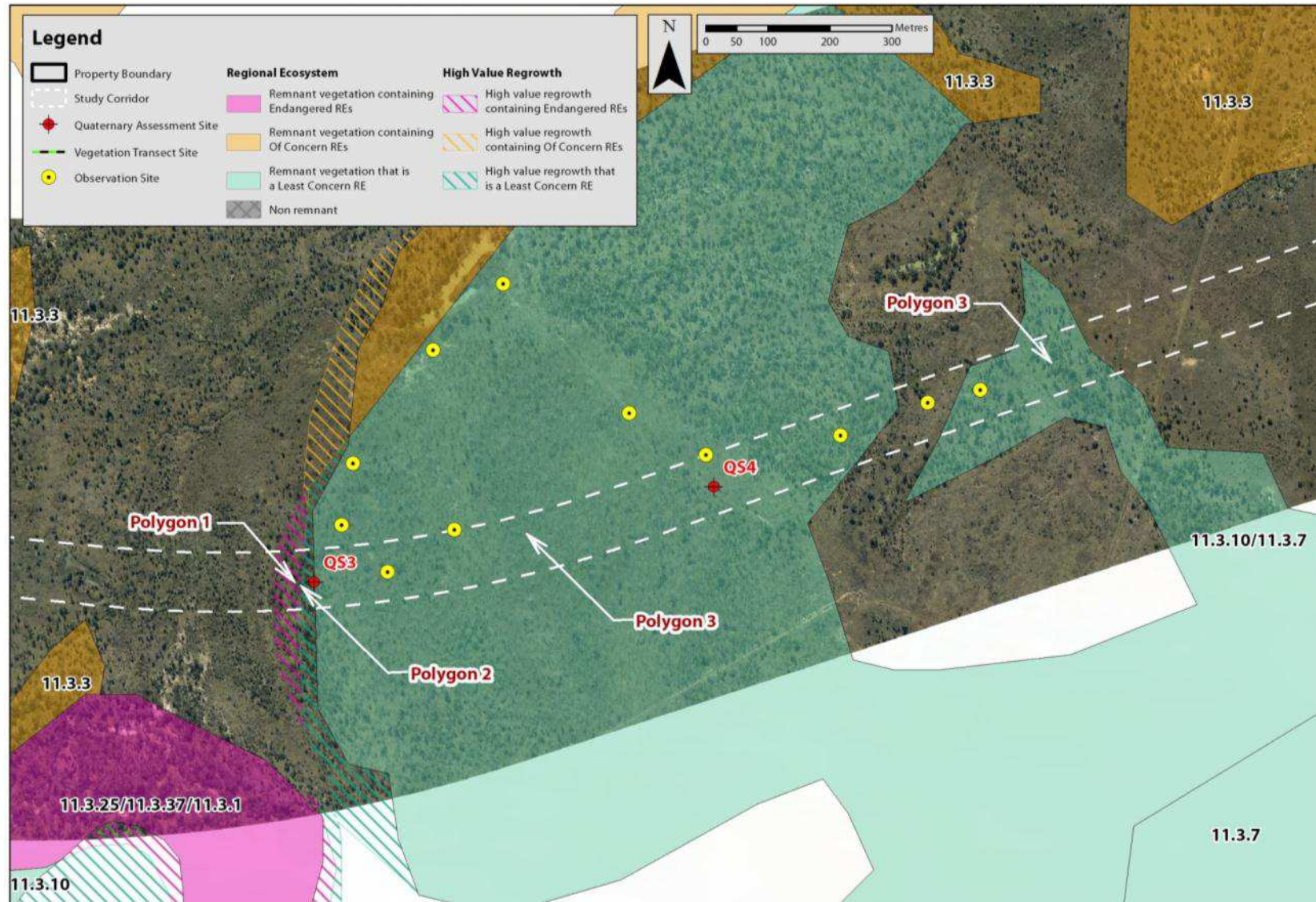


**Photo: Area B – Polygon 3**

*View toward area mapped as Least concern RE 11.3.10/11.3.7*

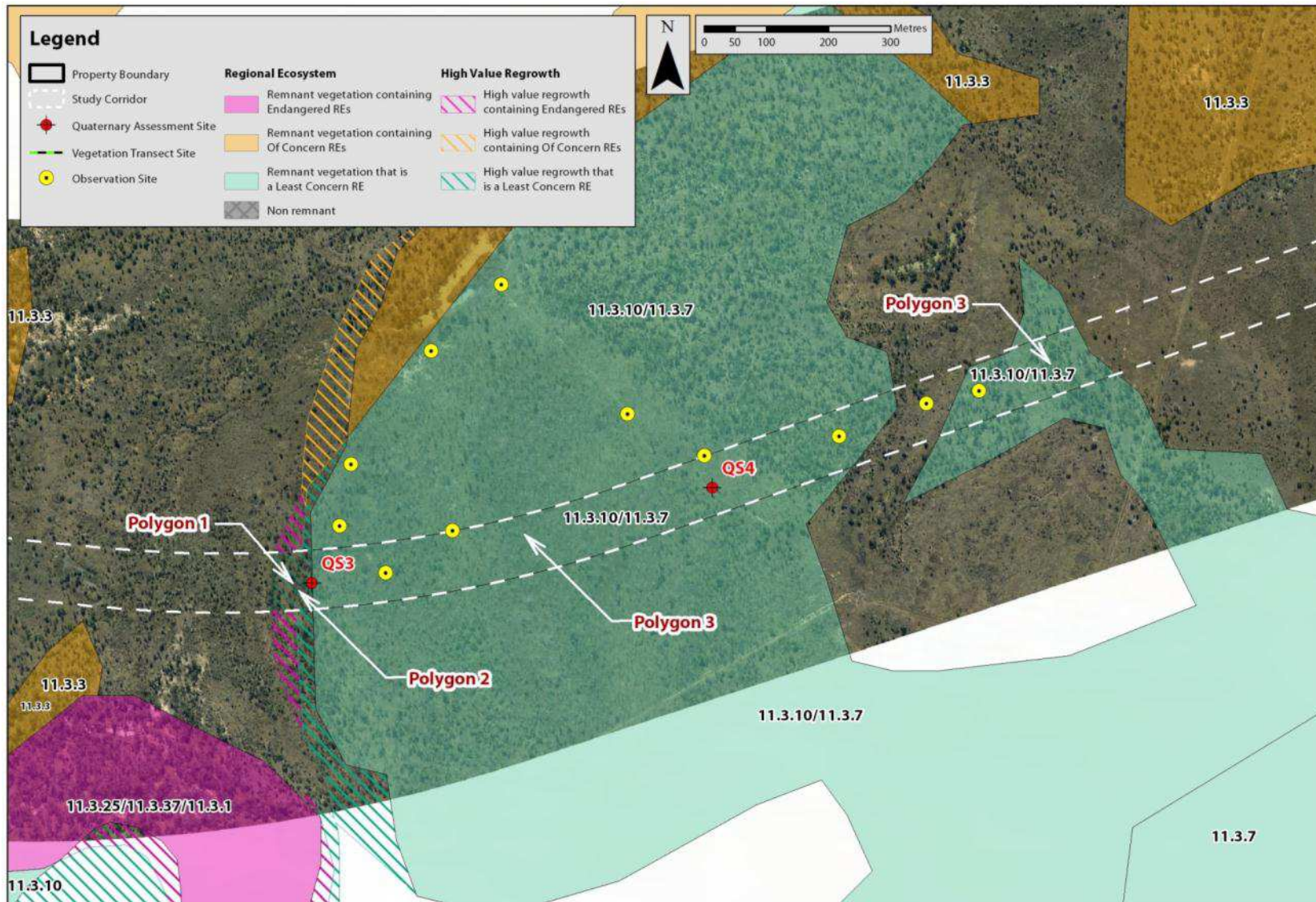


**Figure 9** Regional Ecosystem and Survey Effort (Cassiopeia Area B – Polygon 1-3)





**Figure 10** Regional Ecosystem Changes (Cassiopeia Area B – Polygon 1-3)





## 5.6. Cassiopeia Area C – Polygon I

**Table 13: Cassiopeia Area C - Polygon 1 Summary**

| Site Description                 |   |                |
|----------------------------------|---|----------------|
| Location:                        | Cassiopeia; Lot 3 BL26  |                |
| Site Description:                | <p>The site is located within an Endangered mapped vegetation community described as RE 11.3.25/11.3.37/11.3.1. The polygon is described as 80% Least Concern 11.3.25, 10% Least Concern RE 11.3.37 and 10% Endangered 11.3.1. Refer to Figure 11.</p> <p>The site is representative of quaternary alluvial systems, including floodplains, alluvial plains, alluvial fans, terraces, levees, swamps, channels, closed depressions and fine textured palaeo-estuarine deposits. The vegetation polygon is associated with a stream order 1 watercourse.</p> <p>No <i>Acacia harpophylla</i> (Brigalow) specimens were observed within the investigation area indicating that Endangered RE 11.3.1 is not present within the rail corridor.</p> <p><i>Eucalyptus coolabah</i> and <i>Eucalyptus camaldulensis</i> were observed as dominant species within the canopy. The dominance of these two species and the proximity to watercourse and alluvial flats indicate the presence of RE 11.3.25 and RE 11.3.37. Both RE 11.3.25 and RE 11.3.37 have a similar species composition and structure and are associated with watercourse vegetation. These communities were typically observed and associated with watercourses along the study area.</p> <p>Disturbance from grazing and flood damage were apparent within the survey area.</p> <p>Refer to Transect 1 within Appendix B and Figure 12 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)   |                |
| Eastings/Northings               | Eastings  | Northings      |
|                                  | 467677.52 m E   | 7576051.60 m S |
| Regional Ecosystem Profile       |   |                |
| Current RE Mapping (Version 6.1) | Endangered RE 11.3.25/11.3.37/11.3.1  |                |
| Regional Ecosystem Observed:     | Of Concern RE 11.3.25/11.3.37   |                |
| Width of RE:                     | Not linear (>50Ha)  |                |



**Photo: Area C - Polygon1**

Area mapped as RE11.3.25/11.3.37/11.3.1. Canopy, shrub and groundlayer species consistent with RE 11.3.25/11.3.37. *Acacia harpophylla* (Brigalow) was absent from the survey area.



## 5.7. Cassiopeia Area C – Polygon 2

**Table 14: Cassiopeia Area C - Polygon 2 Summary**

| Site Description                 |   |                |
|----------------------------------|---|----------------|
| Location:                        | Cassiopeia; Lot 3 BL26  |                |
| Site Description:                | <p>The site is located within a mapped vegetation community of RE 11.3.3. Refer to Figure 11.</p> <p>Species composition and structure are consistent with regional ecosystem 11.3.3. <i>Eucalyptus coolabah</i> is the dominant canopy species with a mix of <i>Acacia salicina</i>, <i>Eremophila mitchellii</i>, <i>Muehlenbeckia florulenta</i> and <i>Terminalia oblongata</i> within the shrub layer.</p> <p>This eastern portion of this vegetation polygon was observed as non remnant. This is clearly demonstrated via aerial imagery.</p> <p>Refer to Transect 2 within Appendix B and Figure 12 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)   |                |
| Eastings/Northings               | Eastings  | Northings      |
|                                  | 467756.52 m E   | 7576114.31 m S |
| Regional Ecosystem Profile       |   |                |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.3.3  |                |
| Regional Ecosystem Observed:     | Of Concern RE 11.3.3  |                |
| Width of RE:                     | Not Linear (>20Ha)  |                |

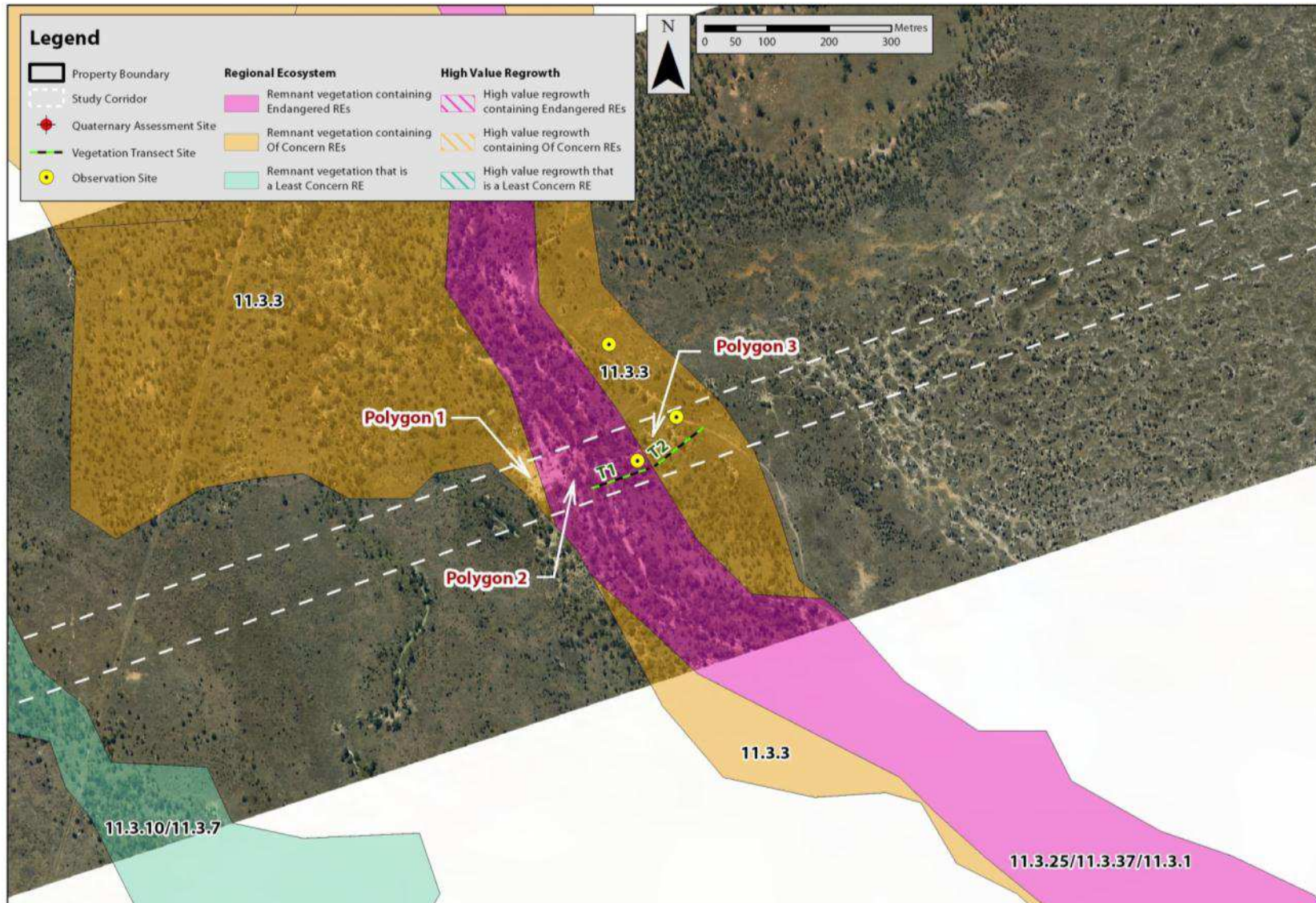


**Photo: Area C - Polygon2**

*Area mapped as RE11.3.3. Canopy, shrub and groundlayer species are consistent with RE 11.3.3.*

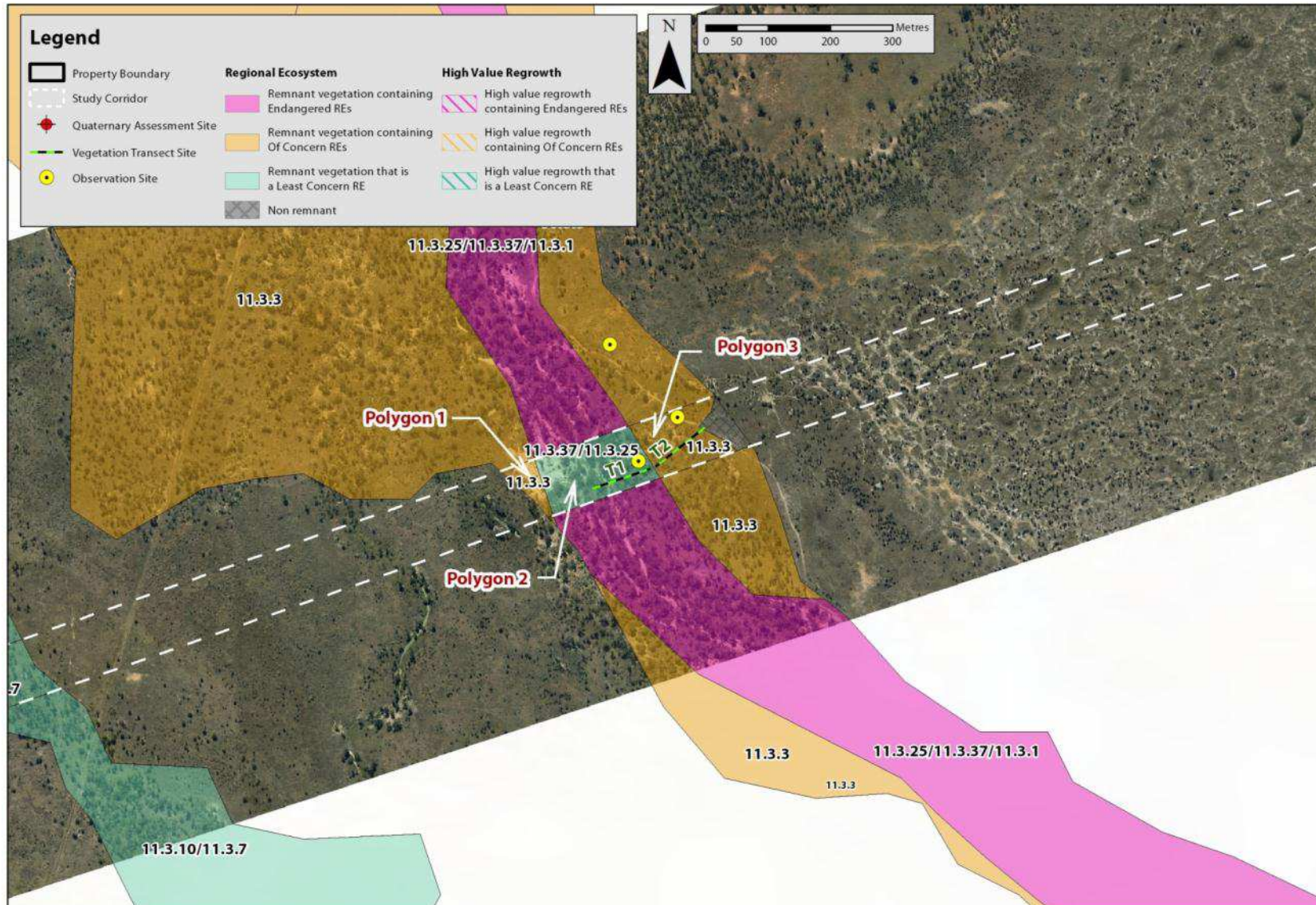


**Figure 11: Regional Ecosystem and Survey Effort (Cassiopeia Area C – Polygon 1 & 2)**





**Figure 12: Regional Ecosystem Changes (Cassiopeia Area C – Polygon 1 & 2)**





## 6. Elgin Downs Stud

Elgin Downs represents one of the more vegetated properties along SP – 1 alignment with large areas of Woodland retained on alluvial plains. Mapped vegetation polygons display a range of disturbance typically observed across SP – 1 and as expected within agricultural settings.

In the majority of locations current RE mapping was found to be correct with only minor amendments to boundaries at the property scale. The most significant change is associated with Area C – Polygon 1 which is proposed to change from and Endangered community to a Least Concern community. A summary of proposed mapping changes is presented in Table 13

**Table 15: Elgin Downs Summary**

| Site                           | Current RE Mapping Version 6.1 | Current RE Mapping Version 6.1 (Area) | RE Observed                   | RE Observed (Area)               |
|--------------------------------|--------------------------------|---------------------------------------|-------------------------------|----------------------------------|
| Elgin Downs Area A - Polygon 1 | Endangered RE 11.3.1 / 11.3.5  | 6.7 ha                                | Endangered RE 11.3.1 / 11.3.5 | 4.9 ha                           |
| Elgin Downs Area A - Polygon 2 | Of Concern RE 11.3.3           | 5.7 ha                                | Of Concern RE 11.3.3          | 4.6 ha                           |
| Elgin Downs Area A - Polygon 3 | Least Concern RE 11.3.10       | 0.7 ha                                | Of Concern RE 11.4.6          | < 0.5 ha                         |
| Elgin Downs Area A - Polygon 4 | Of Concern RE 11.4.6           | 3.0 ha                                | Of Concern RE 11.4.6          | 3.5 ha                           |
| Elgin Downs Area B - Polygon 1 | Endangered RE 11.3.1           | 2.7 ha                                | Endangered RE 11.3.1          | 2.4 ha                           |
| Elgin Downs Area B - Polygon 2 | Least Concern RE 11.5.3        | 5.1 ha                                | Least Concern RE 11.5.3       | 5.2 ha                           |
| Elgin Downs Area B - Polygon 3 | Of Concern RE 11.4.6           | < 0.5 ha                              | Least Concern RE 11.5.3       | <i>Included in above RE area</i> |
| Elgin Downs Area C - Polygon 1 | Endangered RE 11.4.8/11.4.6    | 1.5 ha                                | Of Concern RE 11.4.6          | 1.5 ha                           |
| Elgin Downs Area D - Polygon 1 | Least Concern 11.5.3           | 12.5 ha                               | Least Concern 11.5.3          | 12.5 ha                          |



## 6.I. Elgin Downs Area A – Polygon I

**Table 16: Elgin Downs Area A - Polygon 1 Summary**

| Site Description                 |   |                 |
|----------------------------------|---|-----------------|
| Location:                        | Elgin Downs 637 PH1980  |                 |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Endangered RE 11.3.1/11.3.5. Refer to Figure 13a.</p> <p>The mapped composite Regional Ecosystem is described as containing 80% Endangered RE11.3.1 and 20% Least Concern RE11.3.5.</p> <p>The site is representative of quaternary alluvial systems, including floodplains, alluvial plains, alluvial fans, terraces, levees, swamps, channels, closed depressions and fine textured palaeo-estuarine deposits.</p> <p>The vegetation community observed is consistent with Endangered RE 11.3.1 based on the occurrence of emergent <i>Eucalyptus coolabah</i> and a T1 layer dominated by <i>Acacia harpophylla</i> and <i>Acacia cambagei</i>.</p> <p>Some clearing has occurred along the southern property boundary resulting in this part of the polygon being mapped as non-remnant. .</p> <p>No Mapping amendments are proposed within Area A –Polygon 1. Refer to Transect 1 within Appendix C and Figure 14a for the location of the quaternary site.</p> |                 |
| Datum:                           | GDA94 (MGA55)   |                 |
| Eastings/Northings               | Eastings  | Northings       |
|                                  | 473,185.98 m E  | 7,578,018.9 m S |
| Regional Ecosystem Profile       |   |                 |
| Current RE Mapping (Version 6.1) | Endangered RE 11.3.1/11.3.5   |                 |
| Regional Ecosystem Observed:     | Endangered RE 11.3.1/11.3.5   |                 |
| Width of RE:                     |   |                 |



**Photo: Area A Polygon 1**

*Example of Endangered RE 11.3.1 dominated by Acacia harpophylla.*



## 6.2. Elgin Downs Area A – Polygon 2

**Table 17: Elgin Downs Area A - Polygon 2 Summary**

| Site Description                 |  |                 |
|----------------------------------|--|-----------------|
| Location:                        | Elgin Downs 637 PH1980   |                 |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Of Concern RE 11.3.3. Refer to Figure 13.</p> <p>The site is representative landzone 3 and is associated with an alluvial plain. Vegetation present is dominated by a canopy Eucalyptus coolabah confirming the presence of RE 11.3.3.</p> <p>The area forms part of a relatively intact polygon of vegetation. Fewer signs of disturbance were observed from agricultural activities in this location.</p> <p>No Mapping amendments are proposed within Area A –Polygon 2. Refer to Quaternary Site 1 within Appendix C and Figure 14 for the location of the quaternary site.</p> |                 |
| Datum:                           | GDA94 (MGA55)  |                 |
| Eastings/Northings               | Eastings   | Northings       |
|                                  | 473,185.98 m E   | 7,578,018.9 m S |
| Regional Ecosystem Profile       |  |                 |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.3.3   |                 |
| Regional Ecosystem Observed:     | Of Concern RE 11.3.3   |                 |
| Width of RE:                     |  |                 |



**Photo: Area A - Polygon 2**

*Eucalyptus coolabah* dominated regional ecosystem consistent with Of Concern RE 11.3.3.



### 6.3. Elgin Downs Area A – Polygon 3

**Table 18: Elgin Downs Area A - Polygon 3 Summary**

| Site Description                 |  |                  |
|----------------------------------|--|------------------|
| Location:                        | Elgin Downs 637 PH1980   |                  |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Least Concern RE 11.3.10 adjoining an area mapped as Of Concern RE 11.4.6. Refer to Figure 13b.</p> <p>The assessment identified that this polygon has been historically cleared and retains limited vegetation values. Species remaining include scattered shrubs representative of the surrounding regional ecosystems (Refer Transect 2).</p> <p>This area is proposed as non remnant within revised RE mapping. Refer to Transect 2 within Appendix C and Figure 14b for the location of the quaternary site.</p> |                  |
| Datum:                           | GDA94 (MGA55)  |                  |
| Eastings/Northings               | Eastings   | Northings        |
|                                  | 474,175.36 m E   | 7,578,376.47 m S |
| Regional Ecosystem Profile       |  |                  |
| Current RE Mapping (Version 6.1) | Least Concern RE 11.4.6  |                  |
| Regional Ecosystem Observed:     | Non remnant  |                  |
| Width of RE:                     | -  |                  |



## 6.4. Elgin Downs Area A – Polygon 4

**Table 19: Elgin Downs Area A – Polygon 4 Summary**

| Site Description                 |  |               |
|----------------------------------|--|---------------|
| Location:                        | Elgin Downs 637 PH1980   |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Of Concern RE 11.4.6. Refer to Figure 13b.</p> <p>The areas soil and geological formation appears consistent with Landzone 4 described as Cainozoic clay deposits, usually forming level to gently undulating plains above current alluvial systems.</p> <p>The survey identified <i>Acacia cambagei</i> as the dominate species with scattered occurrences of <i>Acacia harpophylla</i> and <i>Terminalia oblongata</i> throughout the assessment area. This species mix is consistent with Of Concern RE 11.4.6.</p> <p>Vegetation transect 2 was established between Area A-Polygon 3 and Area A- Polygon 4.</p> <p>Some slight changes are identified to RE mapping within Area A –Polygon 4. These changes propose that a small area mapped as Least Concern RE 11.3.10 is changed to Of Concern RE 11.4.6.</p> <p>Refer to Transect 2 within Appendix C and Figure 14b for the location of the quaternary site.</p> |               |
| Datum:                           | GDA94 (MGA55)  |               |
| Eastings/Northings               | Eastings   | Northings     |
|                                  | 474,371 m E  | 7,578,376 m S |
| Regional Ecosystem Profile       |  |               |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.4.6   |               |
| Regional Ecosystem Observed:     | Of Concern RE 11.4.6   |               |
| Width of RE:                     | 3.5 ha   |               |

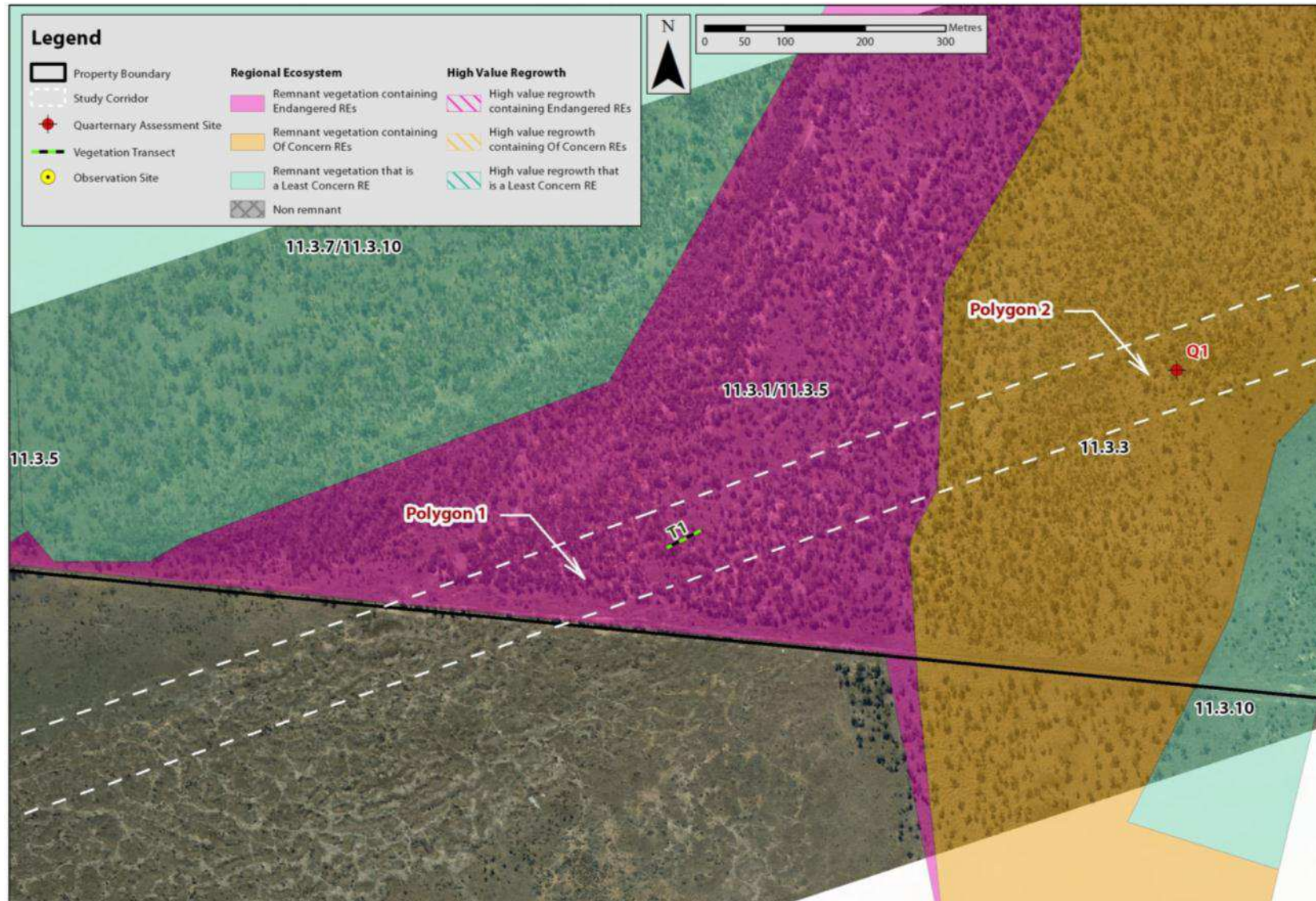


**Photo: Area A Polygon 4**

*An example of species representing RE 11.4.6*

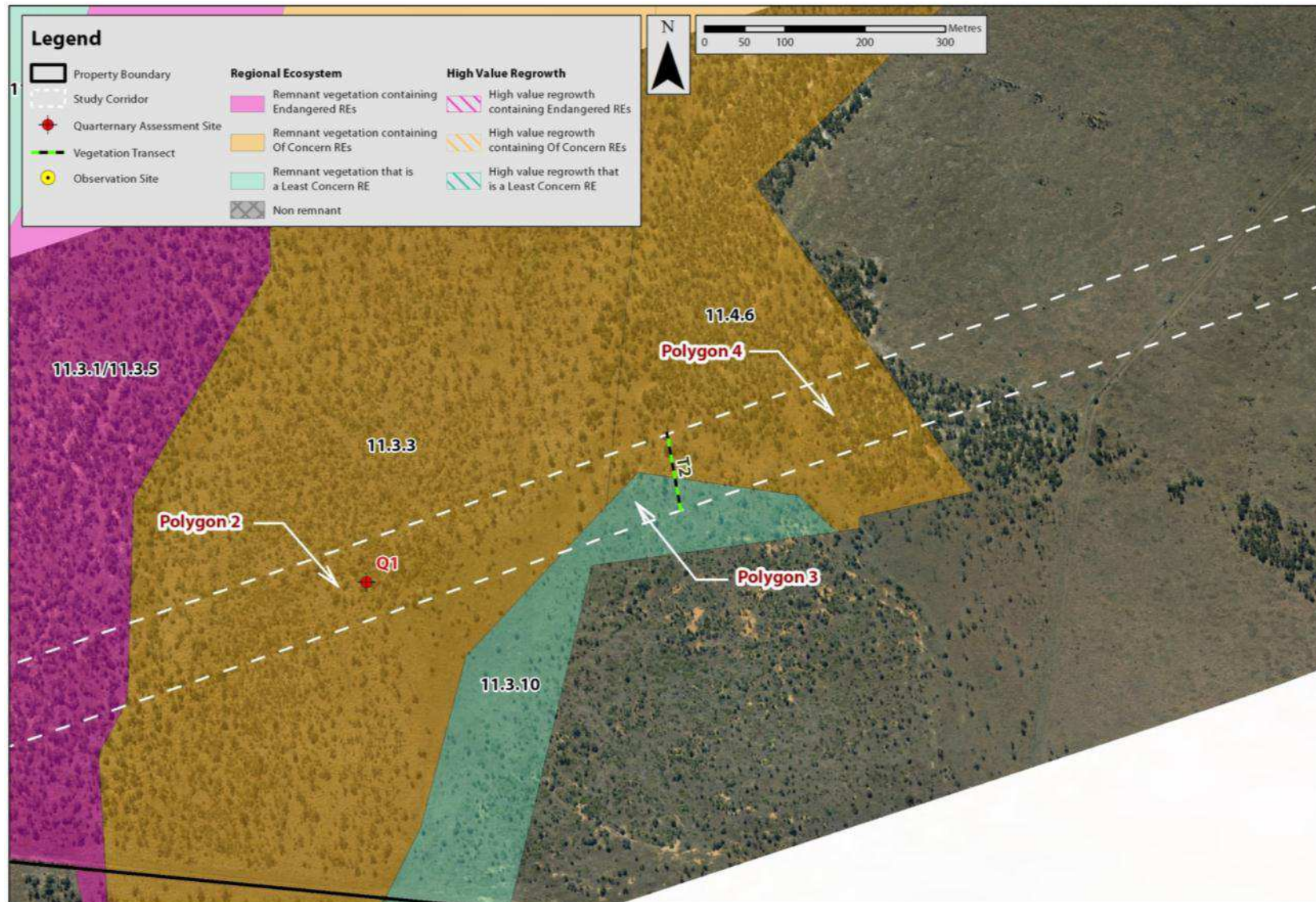


**Figure 13a: Regional Ecosystem and Survey Effort (Elgin Downs Area A – Polygon 1-4)**



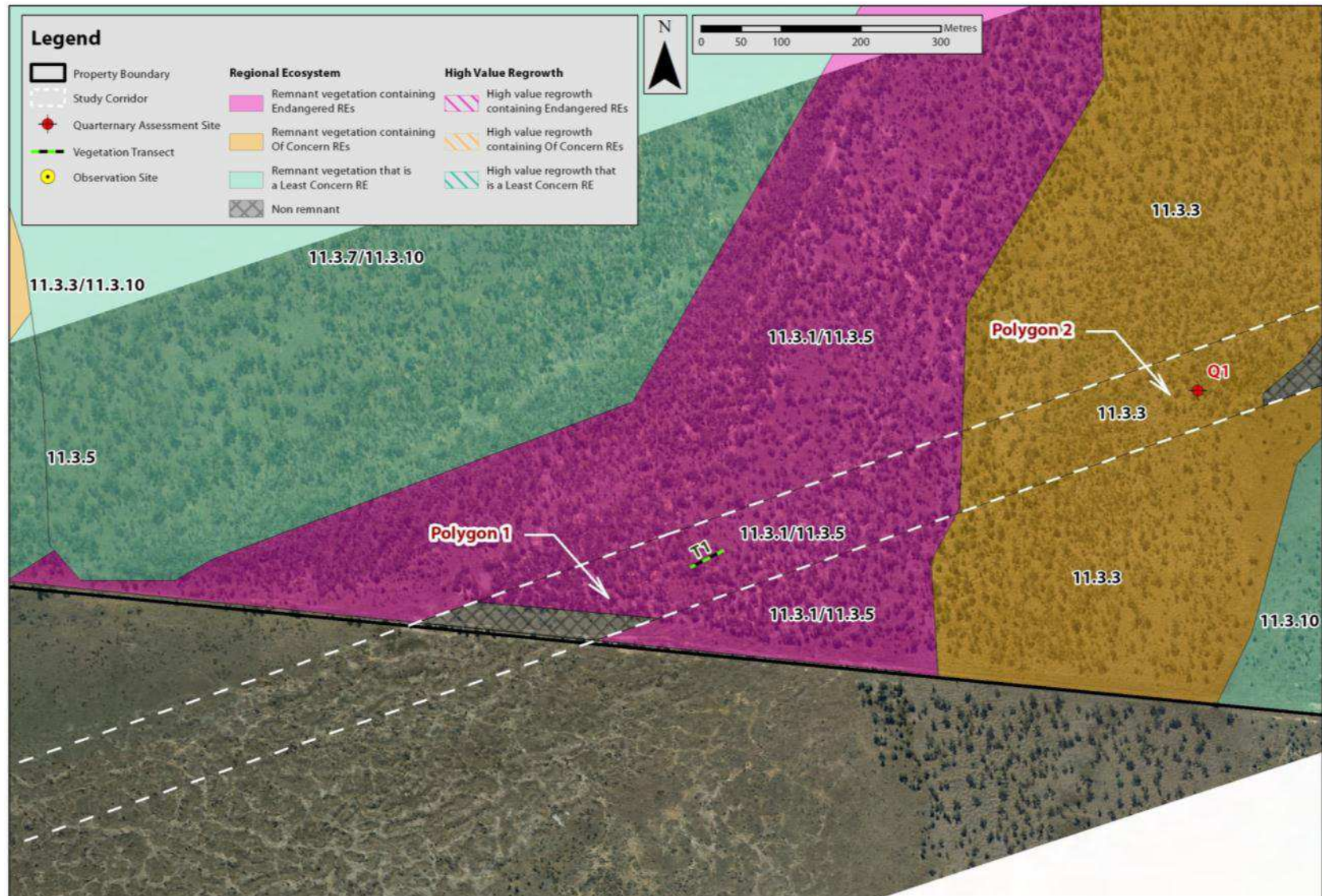


**Figure 13b: Regional Ecosystem and Survey Effort (Elgin Downs Area A – Polygon 1-4)**



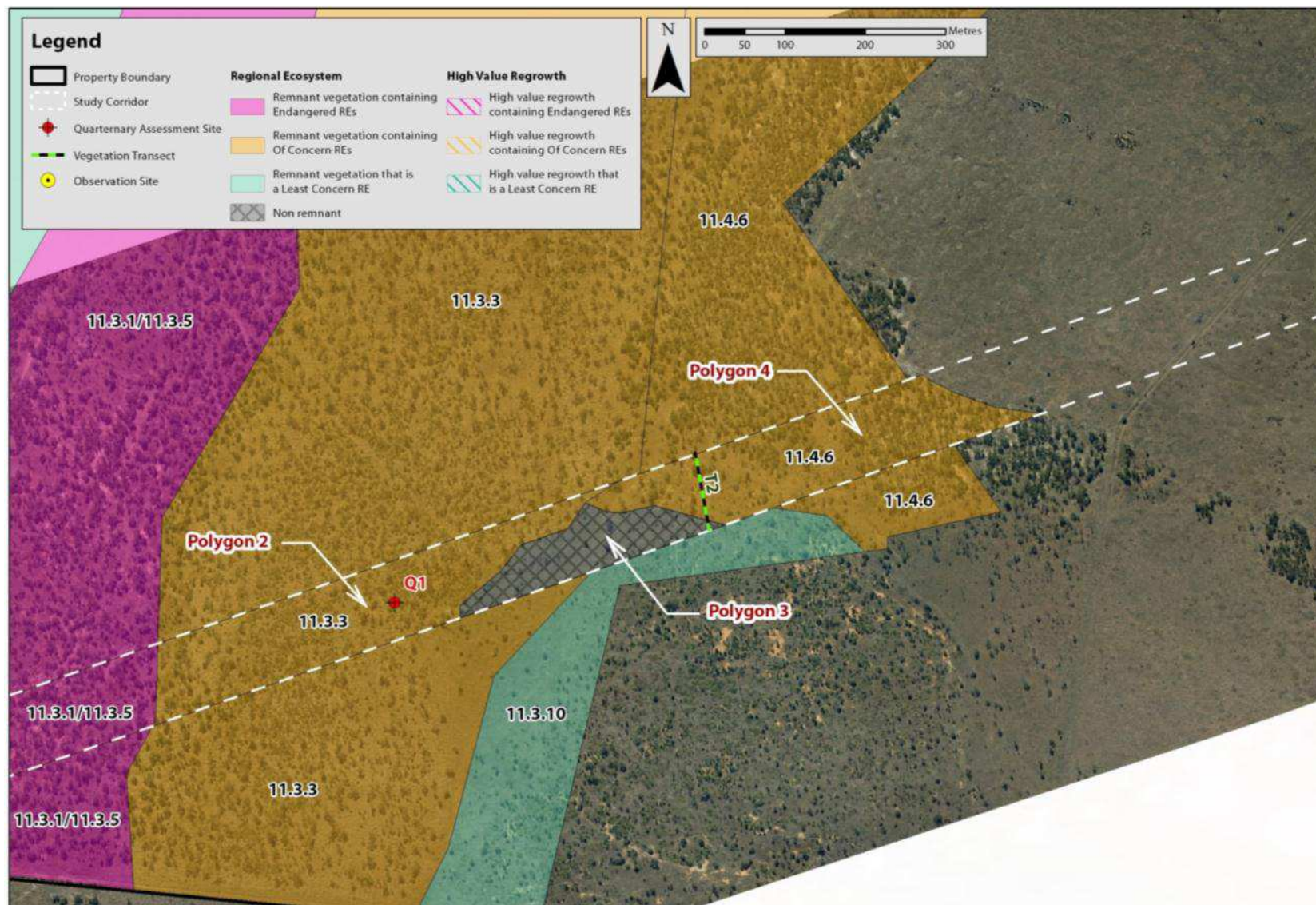


**Figure 14a: Regional Ecosystem Changes (Elgin Downs Area A – Polygon 1-4)**





**Figure 14b: Regional Ecosystem Changes (Elgin Downs Area A – Polygon 1-4)**





## 6.5. Elgin Downs Area B – Polygon I

**Table 20: Elgin Downs Area B - Polygon 1 Summary**

| Site Description                 |  |                  |
|----------------------------------|--|------------------|
| Location:                        | Elgin Downs 637 PH1980   |                  |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Endangered RE 11.3.1. Refer to Figure 15.</p> <p>Field surveys confirmed the presence of an intact community dominated by <i>Acacia harpophylla</i> (Brigalow) confirming the presence of the Endangered RE 11.3.1.</p> <p>Some minor amendments are proposed to Area B –Polygon 1 due to mapping errors or fence line clearing.</p> <p>Refer to Quaternary Site 2 within Appendix C and Figure 16 for the location of the quaternary site.</p> |                  |
| Datum:                           | GDA94 (MGA55)  |                  |
| Eastings/Northings               | Eastings   | Northings        |
|                                  | 474,175.36 m E   | 7,578,376.47 m S |
| Regional Ecosystem Profile       |  |                  |
| Current RE Mapping (Version 6.1) | Endangered RE 11.3.1   |                  |
| Regional Ecosystem Observed:     | Endangered 11.3.1  |                  |
| Width of RE:                     | 2.4 ha   |                  |



**Photo: Area B - Polygon 1**

*Area described as Endangered RE 11.3.1*



## 6.6. Elgin Downs Area B – Polygon 2

**Table 6: Elgin Downs Area B - Polygon 2 Summary**

| Site Description                 |  |                  |
|----------------------------------|--|------------------|
| Location:                        | Elgin Downs 637 PH1980   |                  |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Least Concern RE 11.5.3 -<i>Eucalyptus populnea</i> and/or <i>E. melanophloia</i> and/or <i>Corymbia clarksoniana</i> on Cainozoic sand plains/remnant surfaces. Refer to Figure 15.</p> <p>Landzone 5 is described as extensive, uniform near level or gently undulating Cainozoic plains with sandy or loamy soils. Includes dissected remnants of these surfaces. Also includes plains with sandy or loamy soils of uncertain origin, and plateau remnants with deep soils usually overlying duricrust.</p> <p>Species observed include <i>Corymbia clarksonia</i> with scattered occurrence of <i>Corymbia dallachiana</i> and <i>Eucalyptus brownii</i>. The understorey was dominated by <i>Petalostigma pubescens</i>. These species are consistent with Least Concern RE 11.5.3</p> <p>Some minor mapping amendments are proposed within Area B –Polygon 2. Refer to Quaternary Site 3 within Appendix C and Figure 16 for the location of the quaternary site.</p> |                  |
| Datum:                           | GDA94 (MGA55)  |                  |
| Eastings/Northings               | Eastings   | Northings        |
|                                  | 474,175.36 m E   | 7,578,376.47 m S |
| Regional Ecosystem Profile       |  |                  |
| Current RE Mapping (Version 6.1) | Least Concern RE 11.5.3  |                  |
| Regional Ecosystem Observed:     | Least Concern RE 11.5.3  |                  |
| Polygon size:                    | 2.4 ha   |                  |



**Photo: Area B Polygon 2**

Example of Least Concern RE 11.5.3 containing *Corymbia clarksonia* with scattered occurrence of *Corymbia dallachiana* and *Eucalyptus brownii*.



## 6.7. Elgin Downs Area B – Polygon 3

**Table 6: Elgin Downs Area B - Polygon 3 Summary**

| Site Description                 |  |                  |
|----------------------------------|--|------------------|
| Location:                        | Elgin Downs 637 PH1980   |                  |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Of Concern RE 11.4.6 described as <i>Acacia cambagei</i> woodland on Cainozoic clay plains. Refer to Figure 15.</p> <p>The species mix was dominated by <i>Acacia cambagei</i> and <i>Acacia harpophylla</i> consistent with the description of Of Concern RE 11.4.6. A minor amendment was identified to the northern boundary of this polygon due to the presence of the above species.</p> <p>A small area along the polygons eastern boundary is proposed as non remnant due to fence line clearing.</p> <p>Refer to Quaternary Site 4 within Appendix C and Figure 16 for the location of the quaternary site.</p> |                  |
| Datum:                           | GDA94 (MGA55)  |                  |
| Eastings/Northings               | Eastings   | Northings        |
|                                  | 474,175.36 m E   | 7,578,376.47 m S |
| Regional Ecosystem Profile       |  |                  |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.4.6   |                  |
| Regional Ecosystem Observed:     | Least Concern RE 11.5.3  |                  |
| Width of RE:                     | -  |                  |



**Photo: Area A - Polygon 3**

*Non remnant area with RE 11.4.6 in the background.*

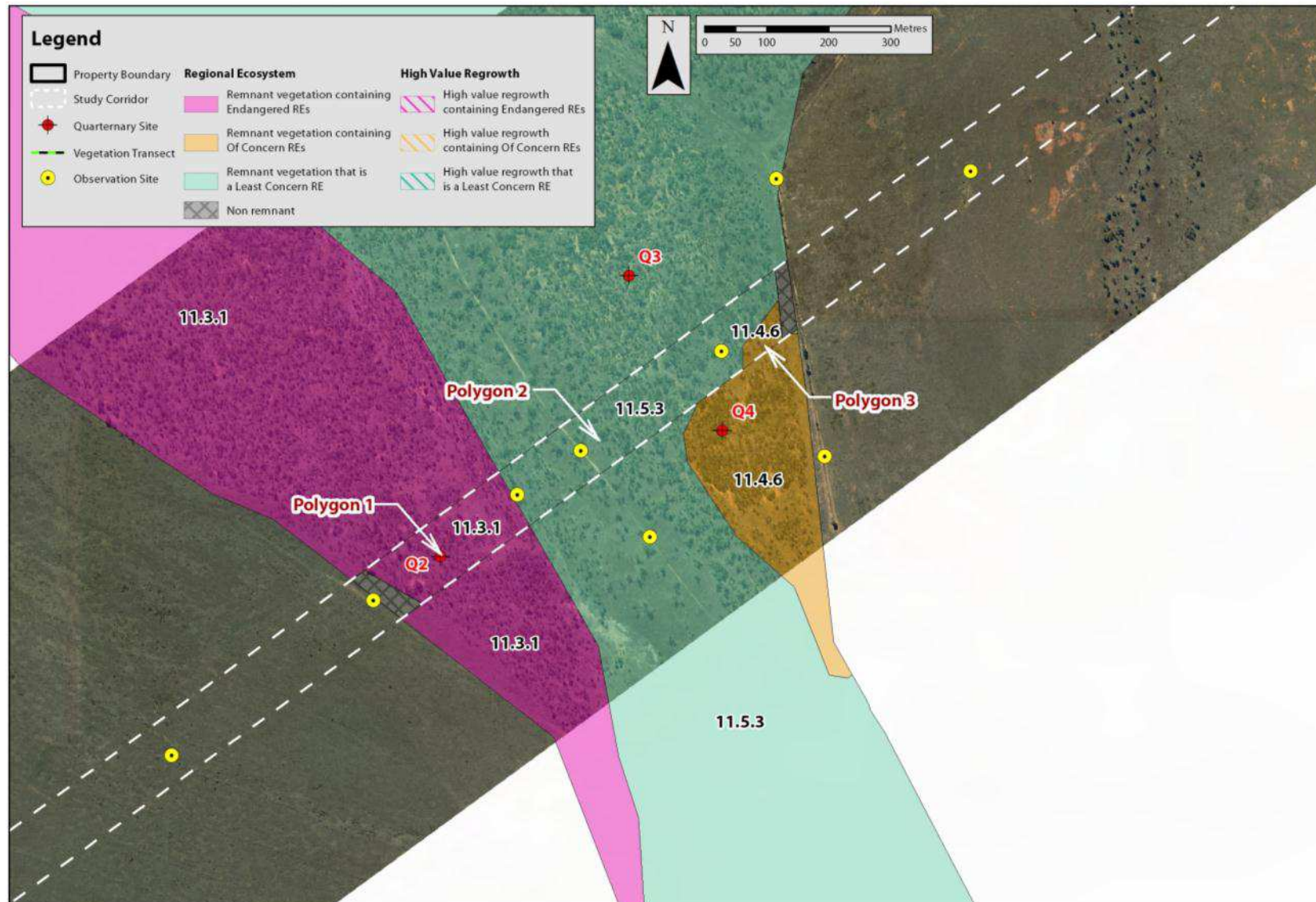


**Figure 15: Regional Ecosystem and Survey Effort (Elgin Downs Area B – Polygon 1-3)**





**Figure 16: Regional Ecosystem Changes (Elgin Downs Area B – Polygon 1-3)**





## 6.8. Elgin Downs Area C – Polygon I

**Table 6: Elgin Downs Area C - Polygon 1 Summary**

| Site Description                 |   |               |
|----------------------------------|---|---------------|
| Location:                        | Elgin Downs 637 PH1980  |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Endangered RE 11.4.8/11.4.6. Refer to Figure 17.</p> <p>The mapped composite Regional Ecosystem is described as containing 80% Of Concern RE 11.4.8 and 20% Least Concern RE 11.4.6.</p> <p>The area's soil and geological formation appears consistent with Landzone 4 described as Cainozoic clay deposits, usually forming level to gently undulating plains above current alluvial systems.</p> <p>Canopy species recorded in this location are dominated by <i>Acacia cambagei</i> and <i>Acacia harpophylla</i>. No <i>Eucalyptus cambageana</i> (indicating RE 11.4.8) were observed during the field assessment. The species mix within this area appears consistent with Of Concern RE 11.4.6.</p> <p>Area C – Polygon 1 is proposed to be mapped as Of Concern RE 11.4.8. Refer to Transect 3 within Appendix C and Figure 18 for the location of the quaternary site.</p> |               |
| Datum:                           | GDA94 (MGA55)   |               |
| Eastings/Northings               | Eastings  | Northings     |
|                                  | 481,361 m E   | 7,583,139 m S |
| Regional Ecosystem Profile       |   |               |
| Current RE Mapping (Version 6.1) | Endangered RE 11.4.8/11.4.6   |               |
| Regional Ecosystem Observed:     | Of Concern RE 11.4.6  |               |
| Width of RE:                     | -   |               |

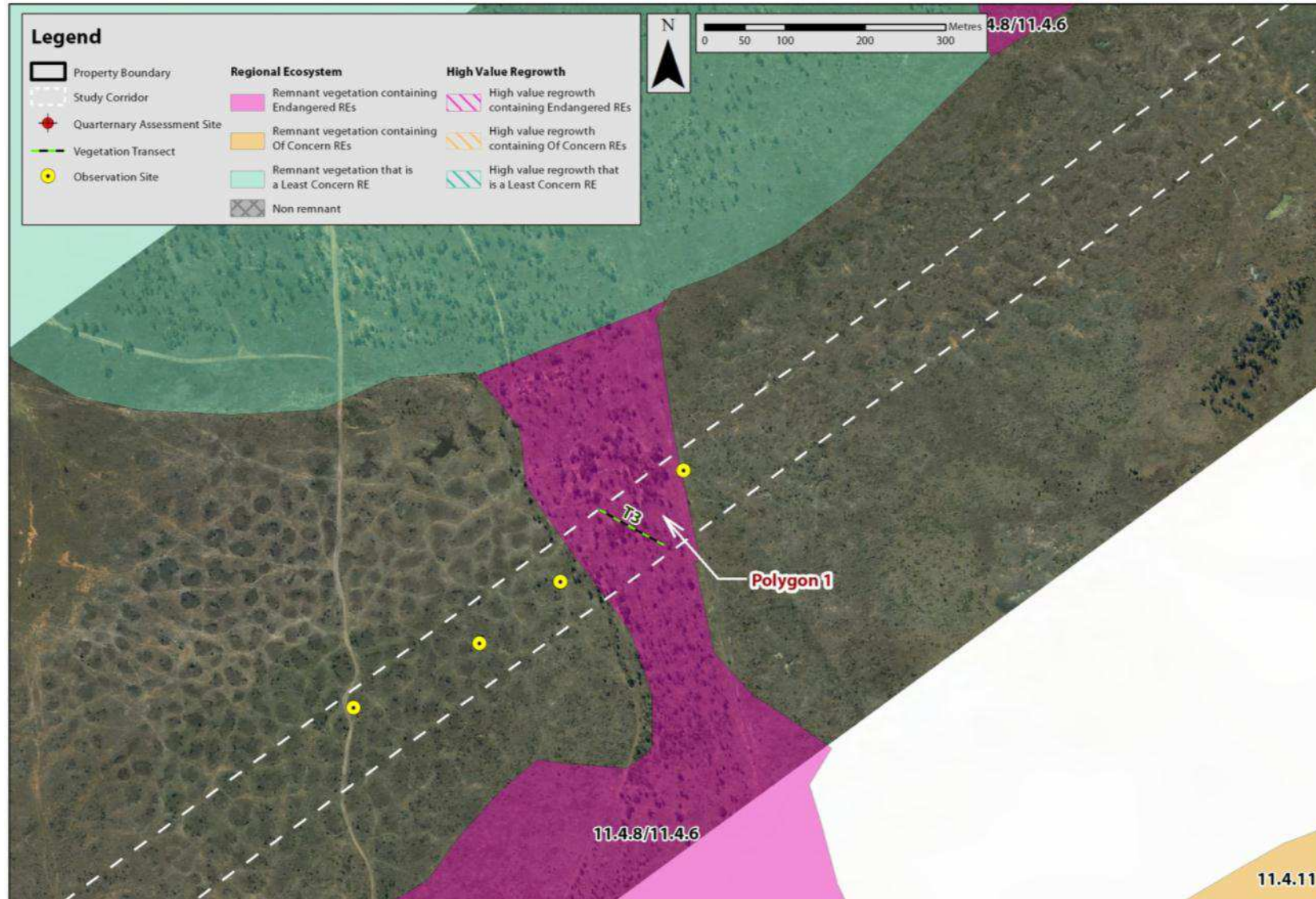


**Photo: Area C –Polygon 1**

*Example of Of Concern RE 11.4.6 containing *Acacia harpophylla* and *Acacia cambagei**

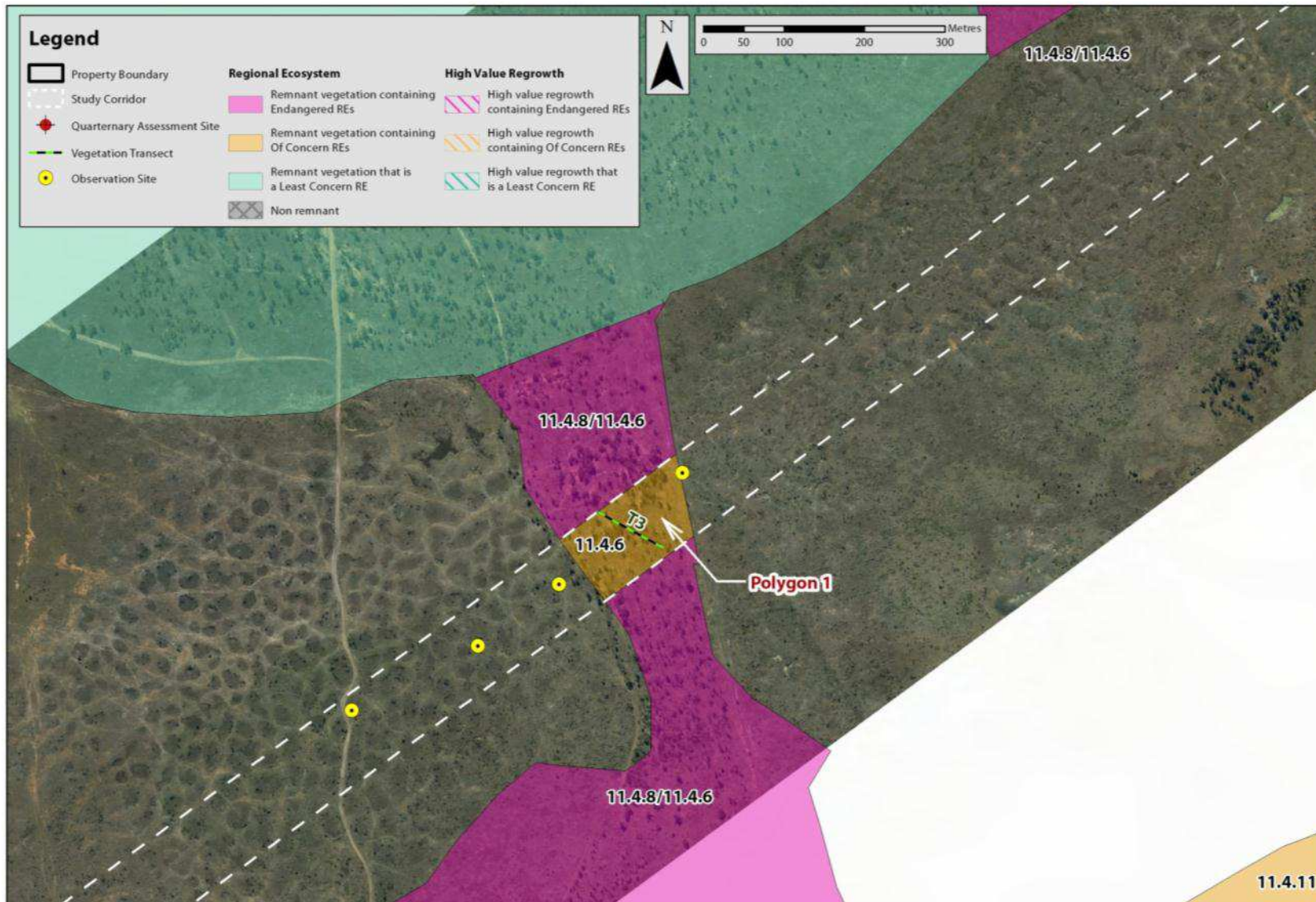


**Figure 17: Regional Ecosystem and Survey Effort (Elgin Downs Area C – Polygon 1)**





**Figure 18: Regional Ecosystem Changes (Elgin Downs Area C – Polygon 1)**





## 6.9. Elgin Downs Area D – Polygon I

**Table 16: Elgin Downs Area D - Polygon 1 Summary**

| Site Description                 |   |               |
|----------------------------------|---|---------------|
| Location:                        | Elgin Downs 637 PH1980  |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Least Concern RE 11.5.3 – <i>Eucalyptus populnea</i> and/or <i>E. melanophloia</i> and/or <i>Corymbia clarksoniana</i> on Cainozoic sand plains/remnant surfaces. Refer to Figure 19.</p> <p>Landzone 5 described as extensive, uniform near level or gently undulating Cainozoic plains with sandy or loamy soils.</p> <p>Canopy species in this location was dominated by <i>Corymbia clarksonia</i>, <i>Corymbia dallachiana</i> and <i>E. brownii</i>. The understory is highly disturbed due to cattle grazing, however species observed are consistent with RE 11.5.3.</p> <p>No Mapping amendments are proposed within Area D –Polygon 1. Refer to Quaternary Site 5 within Appendix C and Figure 20 for the location of the quaternary site.</p> |               |
| Datum:                           | GDA94 (MGA55)   |               |
| Eastings/Northings               | Eastings  | Northings     |
|                                  | 481,361 m E   | 7,583,139 m S |
| Regional Ecosystem Profile       |   |               |
| Current RE Mapping (Version 6.1) | Least Concern RE 11.5.3   |               |
| Regional Ecosystem Observed:     | Least Concern RE 11.5.3   |               |
| Width of RE:                     |   |               |

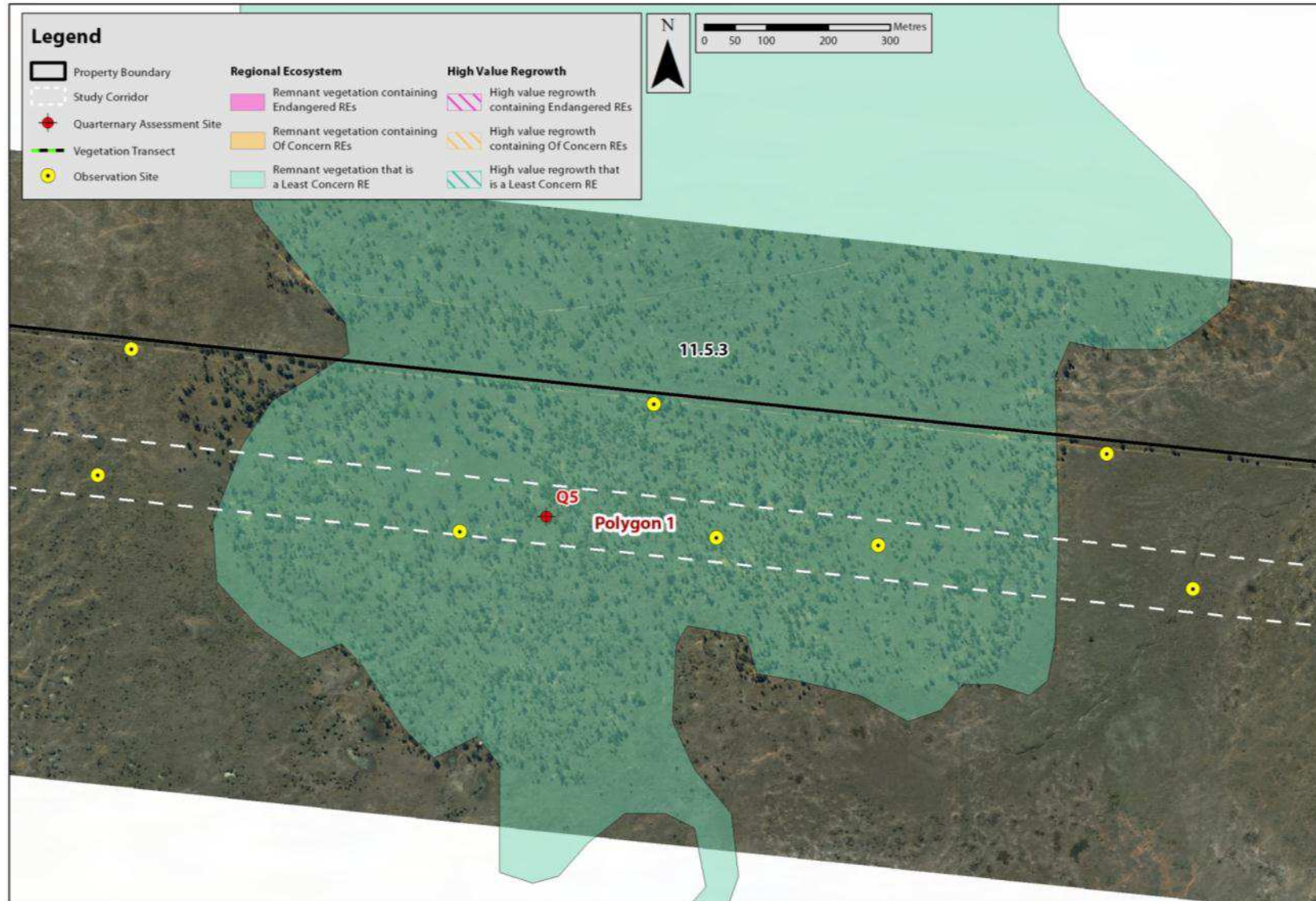


**Photo: Area D – Polygon 1**

*Canopy demonstrating least concern RE 11.5.3.*

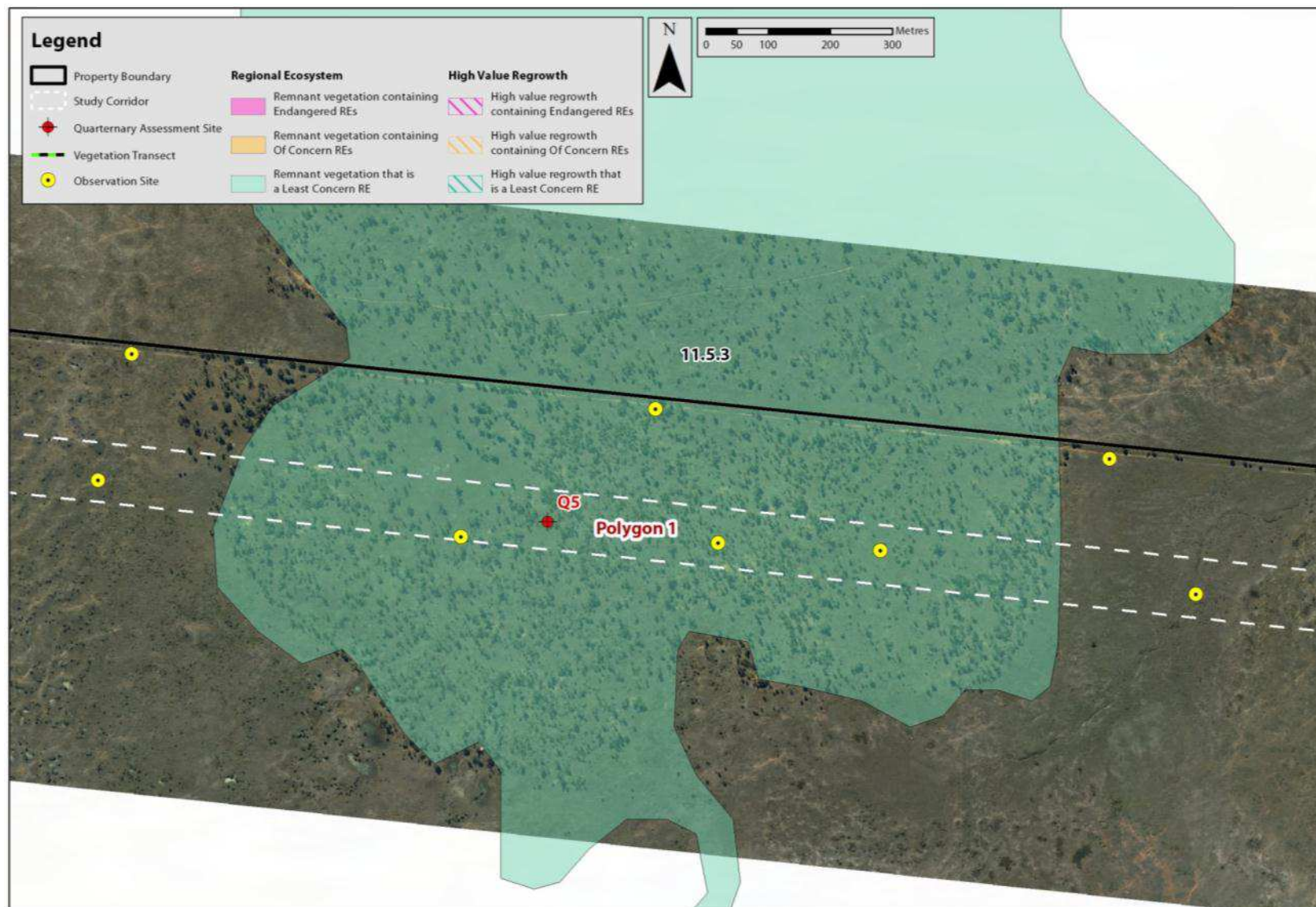


**Figure 19: Regional Ecosystem and Survey Effort (Elgin Downs Area D – Polygon 1)**





**Figure 20: Regional Ecosystem (Elgin Downs Area D – Polygon 1 {No Changes Proposed})**





## 7. Lot 1 on SPI47546

The SP – 1 alignment traverses the south west corner of Lot 1 on SP147546. This location includes a series of tributaries associated with Mistake Creek. Vegetation within this location is mapped as a series of Least Concern and Of Concern REs which occur within the broader alluvial plain.

Current RE mapping is relatively accurate within this location with mapped communities commonly observed within alluvial plains and fringing watercourses across the landscape. The only major changes to mapping include the reclassification of areas of High Value Regrowth to Non remnant.

**Table 17: Lot 1 on SP147546 Summary**

| Site  | Current RE Mapping<br>Version 6.1     | Current RE Mapping<br>Version 6.1 (Area) | RE Observed                           | RE Observed<br>(Area)                          |
|---|---------------------------------------|--|---------------------------------------|--|
| <b>Lot 1 on SPI47546<br/>Area A - Polygon 1</b> | Least Concern High Value<br>Regrowth  | 1.1 ha                                   | Least Concern High<br>Value Regrowth  | 0.5 ha   |
| <b>Lot 1 on SPI47546<br/>Area A - Polygon 2</b> | Of Concern RE<br>11.3.3/11.3.25       | 2.2 ha                                   | Of Concern RE<br>11.3.3/11.3.25       | 2.2 ha   |
| <b>Lot 1 on SPI47546<br/>Area A - Polygon 3</b> | Of Concern High Value<br>Regrowth     | 1.1 ha                                   | Non remnant                           | 1.1 ha   |
| <b>Lot 1 on SPI47546<br/>Area B - Polygon 1</b> | Of Concern High Value<br>Regrowth     | < 0.5 ha                                 | Least Concern High<br>Value Regrowth  | < 0.5 ha                                       |
| <b>Lot 1 on SPI47546<br/>Area B - Polygon 2</b> | Least Concern High Value<br>Regrowth  | < 0.5 ha                                 | Least Concern High<br>Value Regrowth  | <i>Included in<br/>above<br/>Regrowth area</i> |
| <b>Lot 1 on SPI47546<br/>Area B - Polygon 3</b> | Least Concern RE 11.3.25 /<br>11.3.37 | 2.4 ha                                   | Least Concern RE<br>11.3.25 / 11.3.37 | 2.4 ha   |
| <b>Lot 1 on SPI47546<br/>Area B - Polygon 4</b> | Of Concern RE 11.3.3                  | 4.2 ha                                   | Of Concern RE 11.3.3                  | 4.2 ha   |
| <b>Lot 1 on SPI47546<br/>Area B - Polygon 5</b> | Least Concern RE 11.3.25 /<br>11.3.37 | 0.7 ha                                   | Least Concern RE<br>11.3.25 / 11.3.37 | 0.7 ha   |



## 7.1. Lot 1 on SP147546 Area A – Polygon 1

**Table 18: Lot 1 on SP147546 Area A - Polygon 1 Summary**

| Site Description                 |   |               |
|----------------------------------|---|---------------|
| Location:                        | Elgin Downs 637 PH1980  |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Least Concern High Value Regrowth. Refer to Figure 21.</p> <p>The majority of this area is devoid of vegetation values and is considered non remnant. This is clearly indicated within aerial imagery, Refer to Figure 22.</p> |               |
| Datum:                           | GDA94 (MGA55)   |               |
| Eastings/Northings               | Eastings  | Northings     |
|                                  | 488,736 m E   | 7,584,583 m N |
| Regional Ecosystem Profile       |   |               |
| Current RE Mapping (Version 6.1) | Least Concern High Value Regrowth   |               |
| Regional Ecosystem Observed:     | Non remnant   |               |
| Width of RE:                     | -   |               |



**Photo: Area A - Polygon 1**

*Area proposed as non remnant within RE mapping amendments.*



## 7.2. Lot 1 on SPI47546 Area A – Polygon 2

**Table 19: Lot 1 on SP147546 Area A - Polygon 2 Summary**

| Site Description                 |   |               |
|----------------------------------|---|---------------|
| Location:                        | Elgin Downs 637 PH1980  |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Of Concern RE 11.3.3/11.3.25. Refer to Figure 21.</p> <p>The site is representative of quaternary alluvial systems, including floodplains, alluvial plains, alluvial fans, terraces, levees, swamps, channels, closed depressions and fine textured palaeo-estuarine deposits.</p> <p>The field survey noted a large lagoon within the north eastern side of this vegetation polygon. Vegetation surrounding the lagoon is representative of Of Concern RE 11.3.3 due to a canopy dominated by <i>E. coolabah</i>.</p> <p>Areas located further west within this polygon are dominated by <i>Acacia cambagei</i> and <i>Acacia harpophylla</i>, and more representative of least concern RE 11.3.5.</p> <p>No Mapping amendments are proposed within Area A –Polygon 1. Refer to Transect 1 within Appendix D and Figure 22.</p> |               |
| Datum:                           | GDA94 (MGA55)   |               |
| Eastings/Northings               | Eastings  | Northings     |
|                                  | 488,736 m E   | 7,584,583 m N |
| Regional Ecosystem Profile       |   |               |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.3.3/11.3.25  |               |
| Regional Ecosystem Observed:     | Of Concern RE 11.3.3/11.3.25  |               |
| Width of RE:                     | -   |               |



**Photo: Area A - Polygon 1**

*Edge of lagoon dominated by Eucalyptus coolabah and other species consistent with RE 11.3.3/11.3.5*



### 7.3. Lot 1 on SP147546 Area A – Polygon 3

**Table 20: Lot 1 on SP147546 Area A - Polygon 3 Summary**

| Site Description                 |   |               |
|----------------------------------|---|---------------|
| Location:                        | Elgin Downs 637 PH1980  |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Of Concern High Value Regrowth. Refer to Figure 21.</p> <p>This area is heavily grazed and contains very little vegetation as demonstrated by aerial photography. The site is dominated by introduced pastoral grasses and considered non remnant. Refer to Figure 22.</p> |               |
| Datum:                           | GDA94 (MGA55)   |               |
| Eastings/Northings               | Eastings  | Northings     |
|                                  | 489,073 m E   | 7,584,708 m N |
| Regional Ecosystem Profile       |   |               |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.3.3/11.3.25  |               |
| Regional Ecosystem Observed:     | Non remnant   |               |
| Width of RE:                     | -   |               |



**Photo: Area A - Polygon 3**  
*Area proposed as non remnant.*

**Legend**

- Property Boundary
- Study Corridor
- Quaternary Assessment Site
- Vegetation Transect
- Observation Site

**Regional Ecosystem**

- Remnant vegetation containing Endangered REs
- Remnant vegetation containing Of Concern REs
- Remnant vegetation that is a Least Concern RE

**High Value Regrowth**

- High value regrowth containing Endangered REs
- High value regrowth containing Of Concern REs
- High value regrowth that is a Least Concern RE

0 50 100 200 300 Metres

N

Polygon 1

Polygon 2

Polygon 3

T1

11.3.3

11.3.25/11.3.37

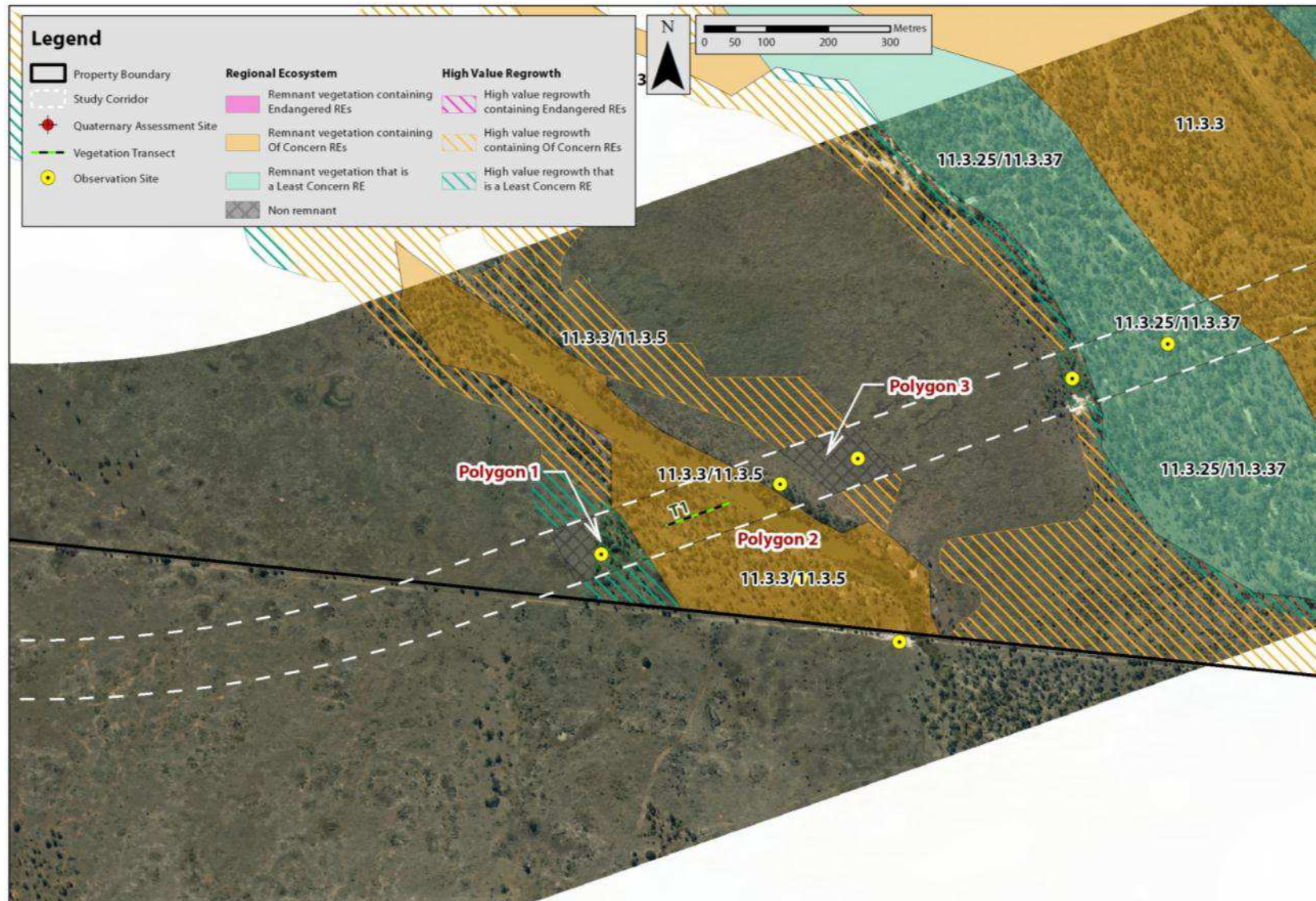
11.3.3/11.3.5

11.5.3

11.3.3/11.3.5



**Figure 22: Regional Ecosystem Changes (Lot 1 on SP147546 Area A – Polygon 1-3)**





#### 7.4. Lot I on SP147546 Area B – Polygon I

**Table 21: Lot 1 on SP147546 Area B - Polygon 1 Summary**

| Site Description                 |  |               |
|----------------------------------|--|---------------|
| Location:                        | Elgin Downs 637 PH1980   |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Of Concern High Value Regrowth. Refer to Figure 23.</p> <p>Field surveys indicate this area is consistent with a regrowth Least Concern community described as RE 11.3.37. Refer to Figure 24</p> |               |
| Datum:                           | GDA94 (MGA55)  |               |
| Eastings/Northings               | Eastings   | Northings     |
|                                  | 489,073 m E  | 7,584,708 m N |
| Regional Ecosystem Profile       |  |               |
| Current RE Mapping (Version 6.1) | Of Concern High Value Regrowth   |               |
| Regional Ecosystem Observed:     | Least Concern High Value Regrowth  |               |
| Polygon size:                    | 0.5 ha   |               |



## 7.5. Lot 1 on SP147546 Area B – Polygon 2

**Table 22: Lot 1 on SP147546 Area B - Polygon 2 Summary**

| Site Description                 |   |               |
|----------------------------------|---|---------------|
| Location:                        | Elgin Downs; 637 PH1980   |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Least Concern High Value Regrowth. Refer to Figure 23.</p> <p>Field surveys indicate this area is consistent with a regrowth Least Concern community described as RE 11.3.37. Refer Figure 24.</p> |               |
| Datum:                           | GDA94 (MGA55)   |               |
| Eastings/Northings               | Eastings  | Northings     |
|                                  | 489,073 m E   | 7,584,708 m N |
| Regional Ecosystem Profile       |   |               |
| Current RE Mapping (Version 6.1) | Least Concern High Value Regrowth   |               |
| Regional Ecosystem Observed:     | Least Concern High Value Regrowth   |               |
| Width of RE:                     | 0.5 ha  |               |



**Photo: Area A - Polygon 1**  
*Example of Least Concern Regrowth*



## 7.6. Lot 1 on SPI47546 Area B – Polygon 3

**Table 23: Lot 1 on SP147546 Area B - Polygon 3 Summary**

| Site Description                 |  |               |
|----------------------------------|--|---------------|
| Location:                        | Elgin Downs 637 PH1980   |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Least Concern RE 11.3.25 / 11.3.37. Refer to Figure 23.</p> <p>The site is representative of quaternary alluvial systems, including floodplains, alluvial plains, alluvial fans, terraces, levees, swamps, channels, closed depressions and fine textured palaeo-estuarine deposits.</p> <p>The dominance of <i>Eucalyptus coolabah</i> within the T1 layer with <i>Eucalyptus camaldulensis</i> found fringing the mapped watercourse. <i>Melaleuca bracteata</i> dominated the edge of the drainage lines. This area was found to be consistent with current RE mapping comprising of Least Concern RE 11.3.25/11.3.37.</p> <p>No Mapping amendments are proposed within Area B –Polygon 3. Refer to Figure 24.</p> |               |
| Datum:                           | GDA94 (MGA55)  |               |
| Eastings/Northings               | Eastings   | Northings     |
|                                  | 489,637 m E  | 7,584,916 m N |
| Regional Ecosystem Profile       |  |               |
| Current RE Mapping (Version 6.1) | Least Concern RE 11.3.25 / 11.3.37   |               |
| Regional Ecosystem Observed:     | Least Concern RE 11.3.25 / 11.3.37   |               |
| Width of RE:                     | -  |               |



**Photo: Area A - Polygon 3**

*Area consistent with Least Concern drainage line and represents a mix of RE11.3.25 / 11.3.37.*



## 7.7. Lot I on SPI47546 Area B – Polygon 4

**Table 24: Lot 1 on SP147546 Area B - Polygon 4 Summary**

| Site Description                 |  |               |
|----------------------------------|--|---------------|
| Location:                        | Elgin Downs 637 PH1980   |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Of Concern RE 11.3.3. Refer to Figure 23.</p> <p>The site is representative of and is associated with a floodplain between two watercourses.</p> <p>Canopy species are dominated by Eucalyptus coolabah with a T2 layer dominated by Acacia gambagei and Terminalia oblongata. This species mix is consistent with current RE mapping including Of Concern RE 11.3.3.</p> <p>No Mapping amendments are proposed within Area B –Polygon 4. Refer to Quaternary Site 1 within Appendix D and Figure 24 for the location of the quaternary site.</p> |               |
| Datum:                           | GDA94 (MGA55)  |               |
| Eastings/Northings               | Eastings   | Northings     |
|                                  | 489,073 m E  | 7,584,708 m N |
| Regional Ecosystem Profile       |  |               |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.3.3   |               |
| Regional Ecosystem Observed:     | Of Concern RE 11.3.3   |               |
| Width of RE:                     | -  |               |



**Photo: Area A - Polygon 4**

*Vegetation represents Of Concern RE11.3.3*



## 7.8. Lot 1 on SP147546 Area B – Polygon 5

**Table 25: Lot 1 on SP147546 Area B - Polygon 5 Summary**

| Site Description                 |   |               |
|----------------------------------|---|---------------|
| Location:                        | Elgin Downs 637 PH1980  |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Least Concern RE 11.3.25 / 11.3.37. Refer to Figure 23.</p> <p>The dominance of <i>Eucalyptus coolabah</i> within the T1 layer with <i>Eucalyptus camaldulensis</i> found fringing the mapped watercourse. <i>Melaleuca bracteata</i> dominated the edge of the drainage lines. This area was found to be consistent with current RE mapping comprising of Least Concern RE 11.3.25/11.3.37.</p> <p>No Mapping amendments are proposed within Area B –Polygon 5. Refer to Figure 24.</p> |               |
| Datum:                           | GDA94 (MGA55)   |               |
| Eastings/Northings               | Eastings  | Northings     |
|                                  | 489,073 m E   | 7,584,708 m N |
| Regional Ecosystem Profile       |   |               |
| Current RE Mapping (Version 6.1) | Least Concern RE 11.3.25 / 11.3.37  |               |
| Regional Ecosystem Observed:     | Least Concern RE 11.3.25 / 11.3.37  |               |
| Width of RE:                     | -   |               |

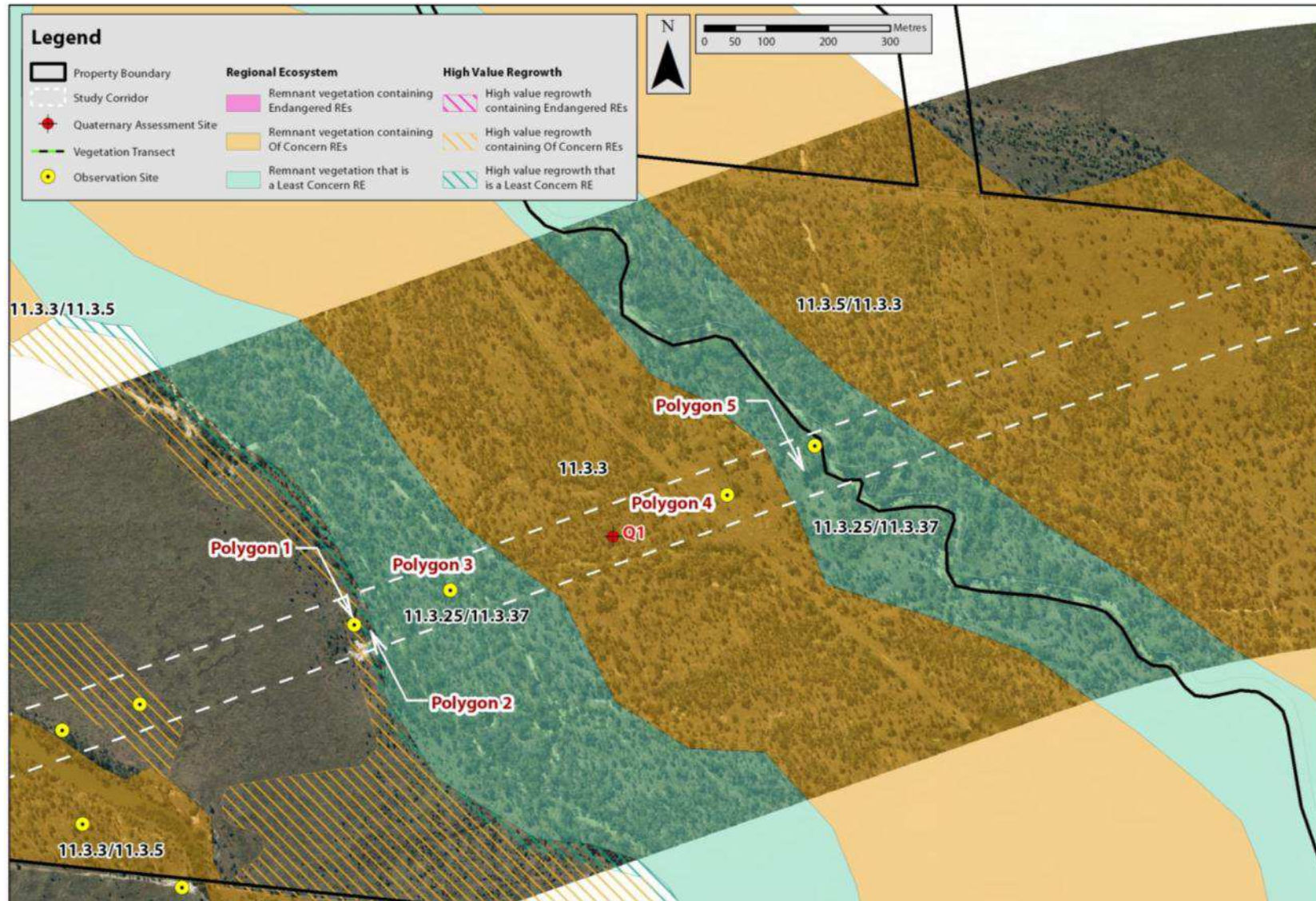


**Photo: Area A - Polygon 5**

*Species observed consistent with Least Concern Regional Ecosystem.*

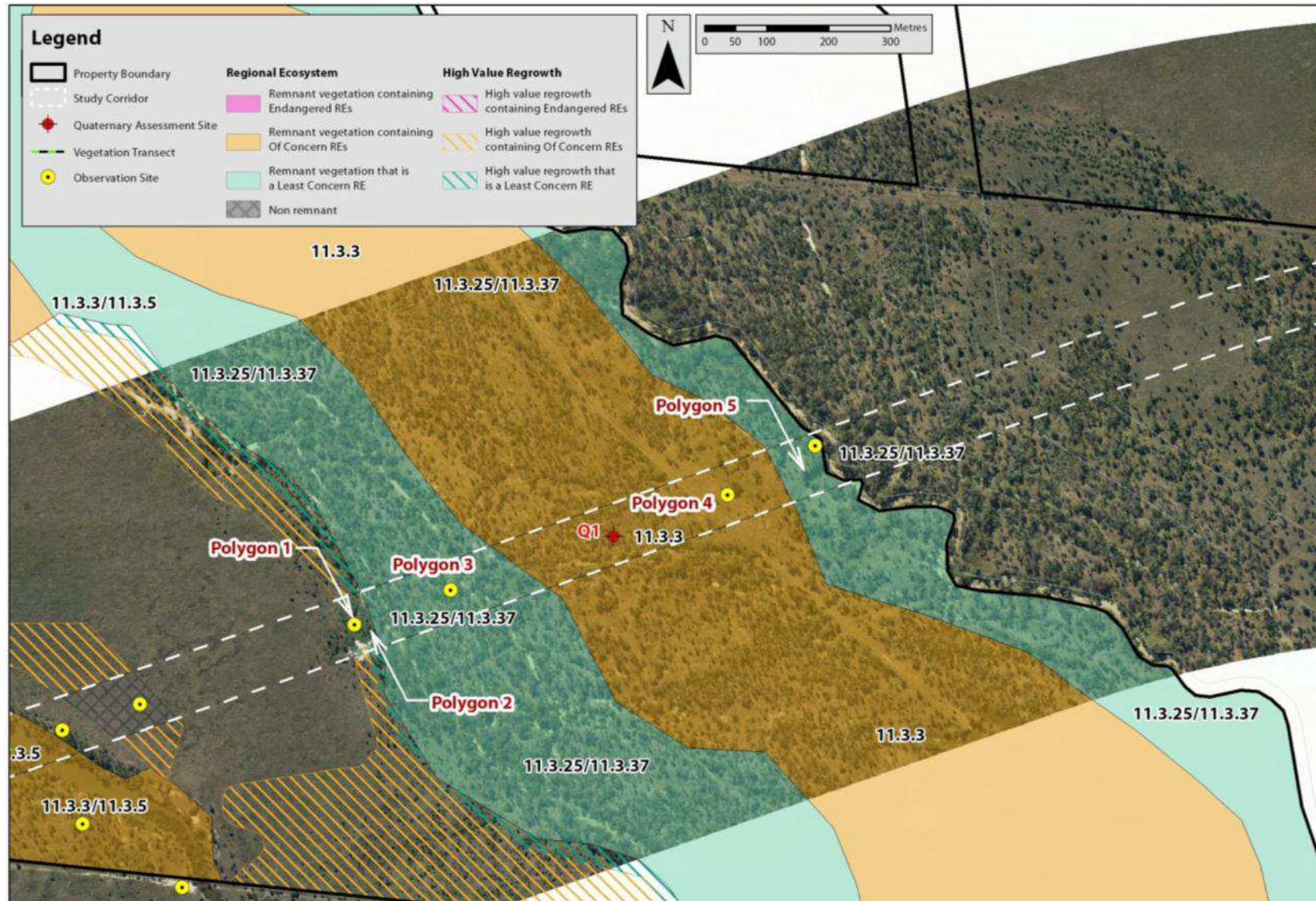


**Figure 23: Regional Ecosystem and Survey Effort (Lot 1 on SP147546 Area B – Polygon 1-5)**





**Figure 24: Regional Ecosystem Changes (Lot 1 on SP147546 Area B – Polygon 1-5)**





## 8. Old Twin Hill Holding

The Old Twin Hills site adjoins Lot 1 on SP147546 with the SP – 1 alignment passing through the north east corner of this property. This part of the property is mostly vegetated and includes a tributary and alluvial plain associated with Mistake Creek. Vegetation present in this location is consistent with both RE mapping and what was observed within Lot 1 on SP147546. Only minor mapping amendments are proposed within this location.

**Table 26: Old Twin Hill Holding**

| Site                           | Current RE Mapping<br>Version 6.1  | Current RE Mapping<br>Version 6.1 (Area) | RE Observed                        | RE Observed<br>(Area) |
|--------------------------------|------------------------------------|--|------------------------------------|-----------------------|
| <b>Old Twin Hills Holdings</b> | Least Concern RE 11.3.25 / 11.3.37 | 1.2 ha                                   | Least Concern RE 11.3.25 / 11.3.37 | 1.2 ha                |
| <b>Old Twin Hills Holdings</b> | Of Concern RE 11.3.5/ 11.3.3       | 7.2 ha                                   | Of Concern RE 11.3.5/ 11.3.3       | 5.0 ha                |



## 8.I. Old Twin Hills Holdings Area A – Polygon I

**Table 27: Old Twin Hills Holdings Area A - Polygon 1 Summary**

| Site Description                 |   |               |
|----------------------------------|---|---------------|
| Location:                        | Elgin Downs 637 PH1980  |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Least Concern RE 11.3.25 / 11.3.37. Refer to Figure 25.</p> <p>This area adjoins Lot 1 on SP147546 Area B - Polygon 5. The vegetation present is consistent with RE 11.3.25/11.3.37.</p> <p>No Mapping amendments are proposed within Area A –Polygon 1. Refer to Figure 26.</p> |               |
| Datum:                           | GDA94 (MGA55)   |               |
| Eastings/Northings               | Eastings  | Northings     |
|                                  | 490,283 m E   | 7,585,157 m N |
| Regional Ecosystem Profile       |   |               |
| Current RE Mapping (Version 6.1) | Least Concern RE 11.3.25 / 11.3.37  |               |
| Regional Ecosystem Observed:     | Least Concern RE 11.3.25 / 11.3.37  |               |
| Width of RE:                     | -   |               |



**Photo: Area A - Polygon 1**

*Fringing Vegetation dominated by Eucalyptus camaldulensis associated with Mistake Creek*



## 8.2. Old Twin Hills Holdings Area A – Polygon 2

**Table 28: Old Twin Hills Holdings Area A - Polygon 2 Summary**

| Site Description                 |  |               |
|----------------------------------|--|---------------|
| Location:                        | Elgin Downs 637 PH1980   |               |
| Site Description:                | <p>The site is located within a mapped vegetation community comprised of Of Concern RE 11.3.5 / 11.3.3. Refer to Figure 25.</p> <p>No changes to Regional Ecosystem mapping are proposed within this location due to the presence of both RE 11.3.5 and 11.3.3. These communities have been recorded along the alluvial plains associated with Mistake Creek.</p> <p>A polygon in the centre of this mapped area is proposed as non remnant due to the past removal of vegetation for grazing purposes.</p> <p>Minor mapping amendments are proposed within Area A –Polygon 2. Refer to Quaternary Site 1 within Appendix E and Figure 26.</p> |               |
| Datum:                           | GDA94 (MGA55)  |               |
| Eastings/Northings               | Eastings   | Northings     |
|                                  | 490,283 m E  | 7,585,157 m N |
| Regional Ecosystem Profile       |  |               |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.3.5 / 11.3.3  |               |
| Regional Ecosystem Observed:     | Of Concern RE 11.3.5 / 11.3.3  |               |
| Width of RE:                     | -  |               |

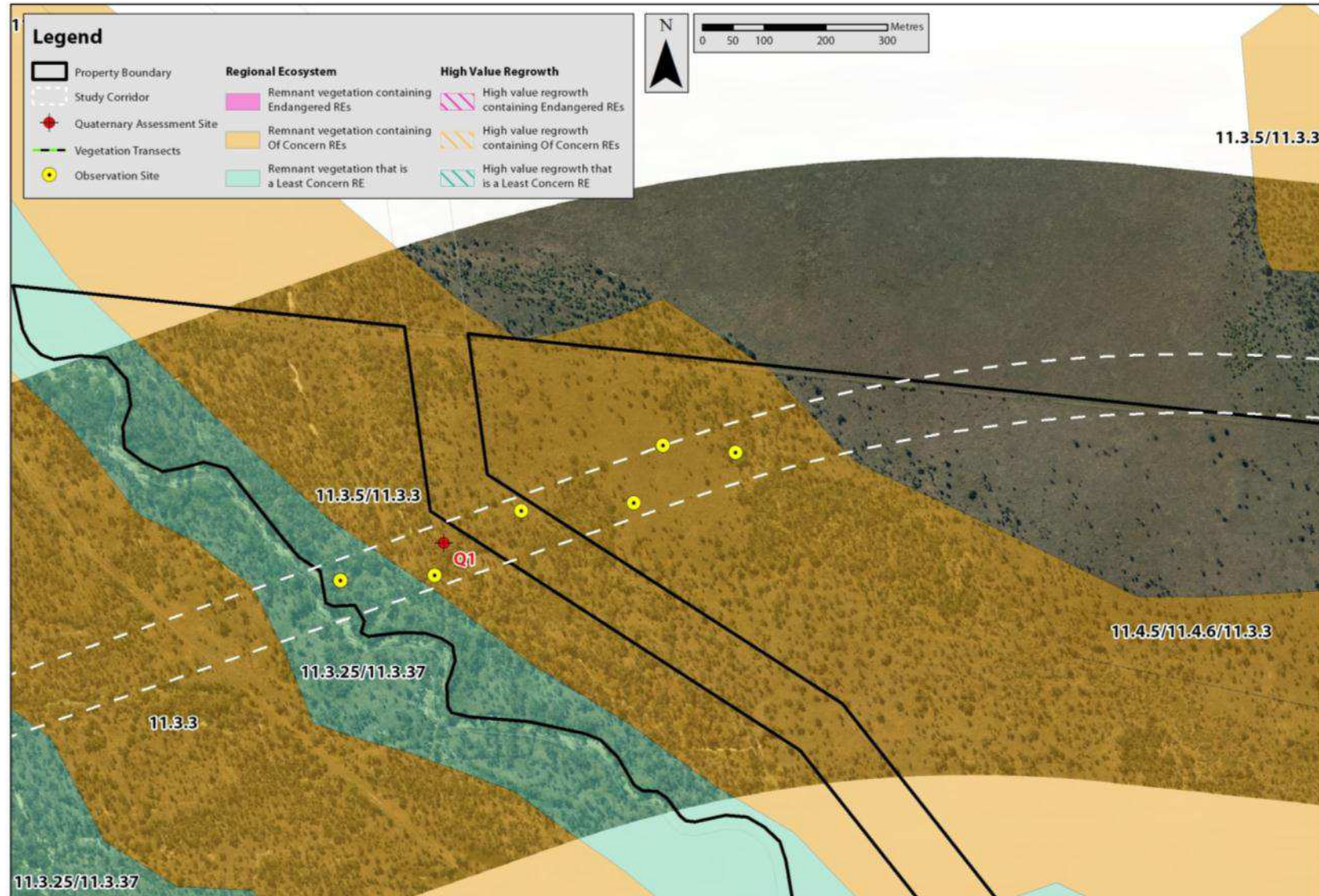


**Photo: Area A - Polygon 3**

*Species mix consistent with current regional ecosystem mapping. Some areas incorrectly mapped containing no vegetation and proposed as non remnant.*



Figure 25: Regional Ecosystem and Survey Effort (Old Twin Hills Area A – Polygon 1 & 2)







## 9. Disney Results

The *Vegetation Management Act Regional Ecosystem and Remnant Map Version 6.1* have mapped eleven regional ecosystem communities across five Landzones within the application area on the Disney property.

Only one intact area of vegetation is associated with the Disney rail corridor. This area of vegetation is located to the west of the property and is described within Area A field results. The remainder of the property includes small areas of RE mapping located along the southern property boundary. Each RE area is incorrectly mapped and clearly non remnant as detailed via aerial imagery. The majority of mapping errors are a result of the scale of current RE mapping. Field investigations and aerial imagery were used to refine mapped boundaries at the property scale.

Based on the detailed field assessment, the application site within the Disney Property has been divided into five (5) assessment areas based on the location of the mapped remnant polygons and status of the regional ecosystem community.

**Table 29: Disney Summary**

| Site                      | Current RE Mapping Version 6.1          | Current RE Mapping Version 6.1 (Area) | RE Observed                     | RE Observed (Area) |
|---------------------------|---|---------------------------------------|---------------------------------|--------------------|
| Disney Area A – Polygon 1 | Of Concern 11.3.5 / 11.3.3              | 7.1 ha                                | Of Concern RE 11.3.3            | 6.5 ha             |
| Disney Area A – Polygon 2 | Endangered RE 11.3.5 / 11.3.1 / 11.3.10 | 5.7 ha                                | Least Concern RE 11.3.5/11.3.10 | 5.4 ha             |
| Disney Area B – Polygon 1 | Endangered RE 11.4.6 / 11.4.9           | < 1 ha                                | Non remnant                     | < 1 ha             |
| Disney Area C – Polygon 1 | Endangered RE 11.4.6 / 11.4.9           | < 1 ha                                | Non remnant                     | < 1 ha             |
| Disney Area C – Polygon 2 | Least Concern RE 11.5.3                 | < 1 ha                                | Non remnant                     | < 1 ha             |
| Disney Area D – Polygon 1 | Endangered RE 11.4.6 / 11.4.9           | 3.4 ha                                | Non remnant                     | 3.4 ha             |
| Disney Area D – Polygon 2 | Least Concern RE 11.7.3 / 11.7.2        | < 1 ha                                | Non remnant                     | < 1 ha             |
| Disney Area E – Polygon 1 | Of Concern RE 11.9.10                   | 1.4 ha                                | Non remnant                     | 1.4 ha             |
| Disney Area E – Polygon 2 | Endangered RE 11.9.10 / 11.4.8          | < 1 ha                                | Non remnant                     | < 1 ha             |
| Disney Area E – Polygon 3 | Endangered RE 11.4.9                    | < 1 ha                                | Non remnant                     | < 1 ha             |



## 9.1. Disney Area A – Polygon I

**Table 30: Disney Area A – Polygon 1 Summary**

| Site Description                  |  |                |
|-----------------------------------|--|----------------|
| Location:                         | Disney Property; Lot 4 on SP116046   |                |
| Site Description:                 | <p>The site is mapped as a composite vegetation community described as Of Concern RE 11.3.5/11.3.3 described as approximately 70% Least Concern 11.3.5 and 30% Of Concern 11.3.3. The mapped remnant polygon is located towards the south west corner of the Disney property within an extensive alluvial plain.</p> <p>The site is located adjacent to cleared open paddocks managed for cattle and representative of Landzone 3 described as quaternary alluvial systems, including floodplains, alluvial plains, alluvial fans, terraces, levees, swamps, channels, closed depressions and fine textured palaeo-estuarine deposits.</p> <p>Species observed throughout the mapped Of Concern polygon represent a composite Regional Ecosystem 11.3.5/11.3.3. Recent flood damage is evident throughout the area.</p> <p>No Mapping amendments are proposed within Area A –Polygon 1. Refer to Transect 1 and Quaternary sites 1 in Appendix F and Figure 27 for the location of transects and quaternary sites.</p> |                |
| Datum:                            | GDA94 (MGA55)  |                |
| Eastings/Northings                | Eastings   | Northings      |
|                                   | 21° 50' 06.10"   | 146° 55' 18.21 |
| Regional Ecosystem Profile        |  |                |
| Current RE Mapping (Version 6.1): | Of Concern RE 11.3.5 / 11.3.3  |                |
| Regional Ecosystem Observed:      | Of Concern RE 11.3.5/11.3.3  |                |
| Width of RE:                      | Not linear (<10Ha)   |                |



**Photo: Area A - Polygon 1**

*The area mapped as composite RE 11.3.5/11.3.3 within the investigation area.*



## 9.2. Disney Area A – Polygon 2

**Table 31: Disney Area A – Polygon 2 Summary**

| Site Description                  |  |                 |
|-----------------------------------|--|-----------------|
| Location:                         | Disney Property; Lot 4 on SP116046   |                 |
| Site Description:                 | <p>The site is mapped as a composite vegetation community described as Endangered RE 11.3.5/11.3.1/11.3.10.</p> <p>The site is located within a mapped composite vegetation community comprised of approximately 80% Least Concern 11.3.5 with the remaining two regional ecosystems mapped as both ten 10%.</p> <p>The site adjoins Disney Area A – Polygon 1 and is situated within an alluvial plain. No <i>Acacia harpophylla</i> was observed; hence the Regional Ecosystem 11.3.1 is not present within this portion of the property.</p> <p>Species observed represent Least Concern Regional Ecosystem 11.3.10 and 11.3.5. These two Least Concern communities form a composite regional ecosystem.</p> <p>Refer to Transect 2 &amp; 3 and Quaternary site 2 in Appendix F and Figure 28 for proposed mapping changes.</p> |                 |
| Datum:                            | GDA94 (MGA55)  |                 |
| Eastings/Northings                | Eastings   | Northings       |
|                                   | 21° 50' 07.59"   | 146° 55' 49.13" |
| Regional Ecosystem Profile        |  |                 |
| Current RE Mapping (Version 6.1): | Endangered RE 11.3.5 / 11.3.1 / 11.3.10  |                 |
| Regional Ecosystem observed:      | Least Concern RE 11.3.5/11.3.10  |                 |
| Width of RE:                      | Not linear (<10Ha)   |                 |

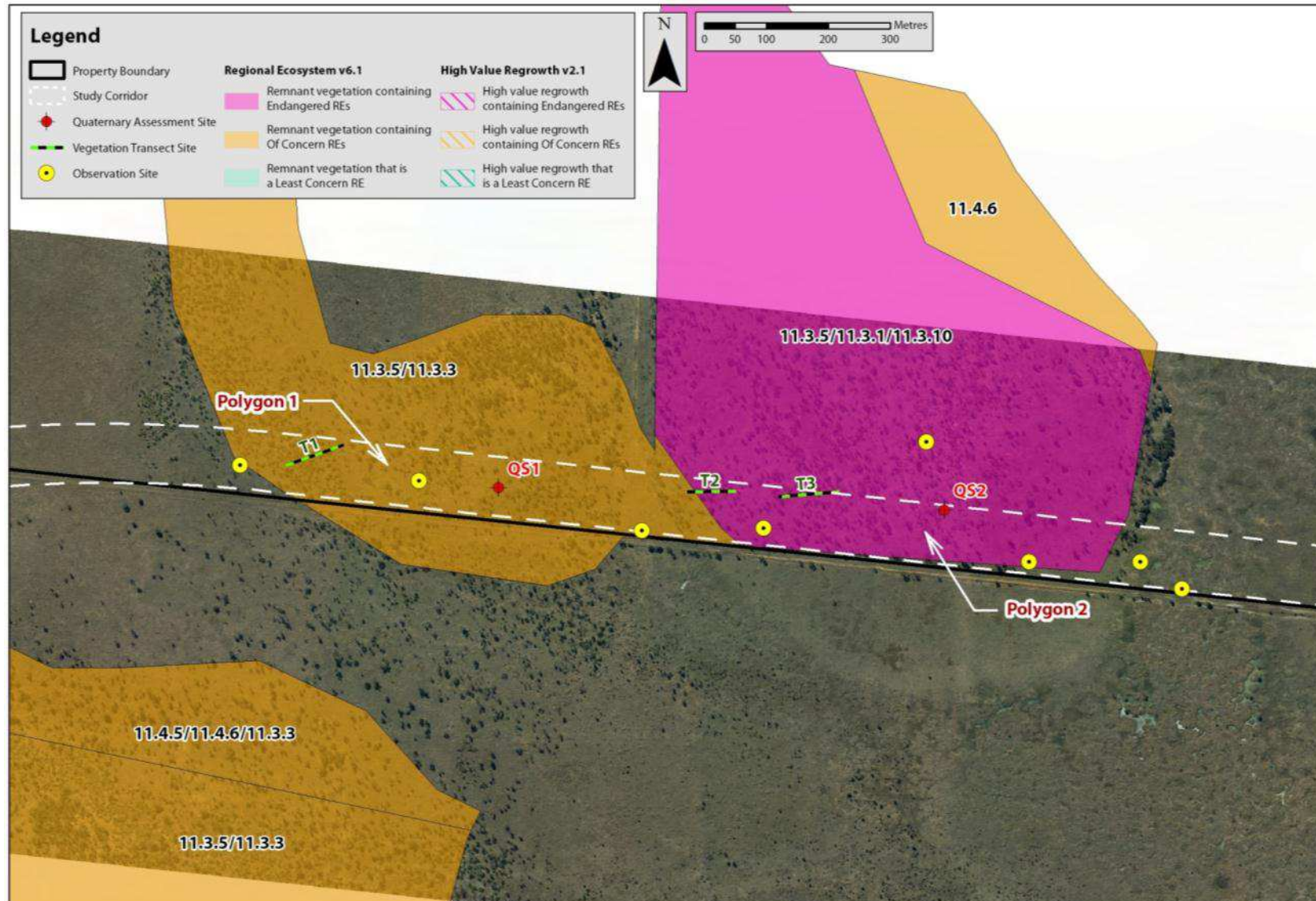


**Photo: Disney Area A – Polygon 2**

*Woodland areas displaying characteristics of Least Concern Regional Ecosystems 11.3.10/11.3.5*

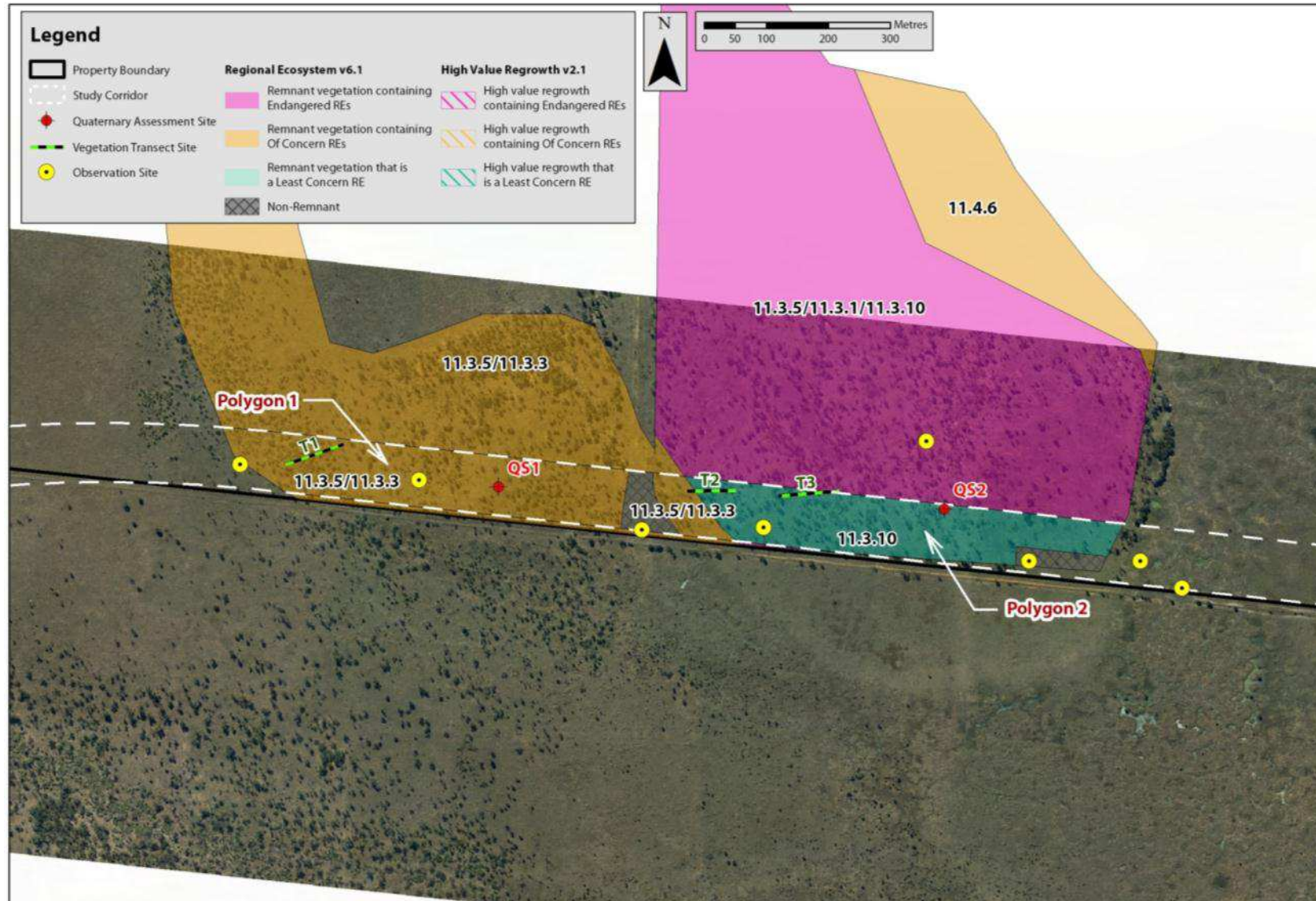


**Figure 27: Regional Ecosystem and Survey Effort (Disney Area A – Polygon 1 & 2)**





**Figure 28: Regional Ecosystem Changes (Disney Area A – Polygon 1 & 2)**





### 9.3. Disney Area B – Polygon I

**Table 32: Disney Area B – Polygon 1 Summary**

| Site Description                 |   |                |
|----------------------------------|---|----------------|
| Location:                        | Disney Property; Lot 4 on SP116046  |                |
| Site Description:                | <p>The site is mapped as a composite vegetation community described as Endangered RE11.4.6/11.4.9 described as approximately 90% Of Concern RE 11.4.6 and 10% Endangered RE11.4.9</p> <p>This vegetation polygon is largely mapped to the south of the Disney property with only a thin area extending into Lot 4 on SP116046. This lineal patch is approximately 100m in width and follows southern property boundary of the Disney property for approximately 2km.</p> <p>The site assessment confirmed aerial imagery which demonstrates that no remnant vegetation occurs within the investigation area.</p> <p>The only native vegetation present is associated with a very sparse shrub layer containing <i>Acacia harpophylla</i>, <i>Terminalia oblongata</i> and <i>Carrisa ovata</i> all of which is less than 1m in height.</p> <p>A dense groundlayer was observed that contained a mix of native and exotic grass species including <i>Pennisetum ciliare</i>, <i>Parthenium hysterophorus</i>, <i>Heteropogon contortus</i>, <i>Panicum decompositum</i>, <i>Leptochloa digitata</i> and <i>Chrysopogon fallax</i>.</p> <p>It is believed that the errors associated with the line work of the mapped polygon are a result of scaling issues at the property scale.</p> <p>Refer to Quaternary Site 3 in Appendix F and Figure 30 for proposed mapping changes.</p> |                |
| Datum:                           | GDA94 (MGA55)   |                |
| Eastings/Northings               | Eastings  | Northings      |
|                                  | 21° 50' 46.78"  | 147° 01' 43.35 |
| Regional Ecosystem Profile       |   |                |
| Current RE Mapping (Version 6.1) | Endangered RE11.4.6 / 11.4.9  |                |
| Regional Ecosystem Observed:     | Non remnant   |                |
| Width of RE:                     | Linear  |                |

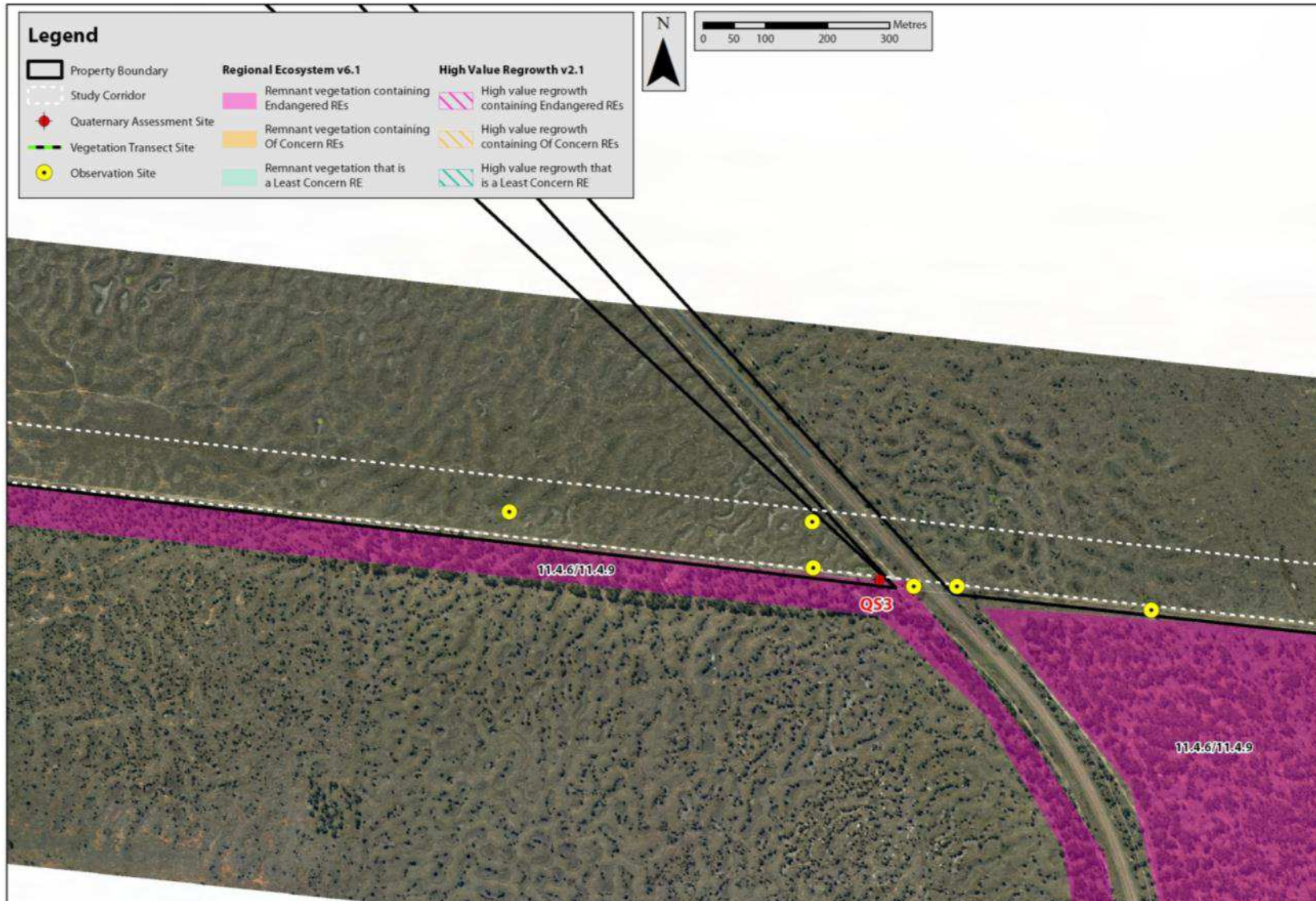


**Photo: Disney Area B – Polygon 1**

*Non remnant area currently mapped as Endangered RE11.4.6/11.4.9.*

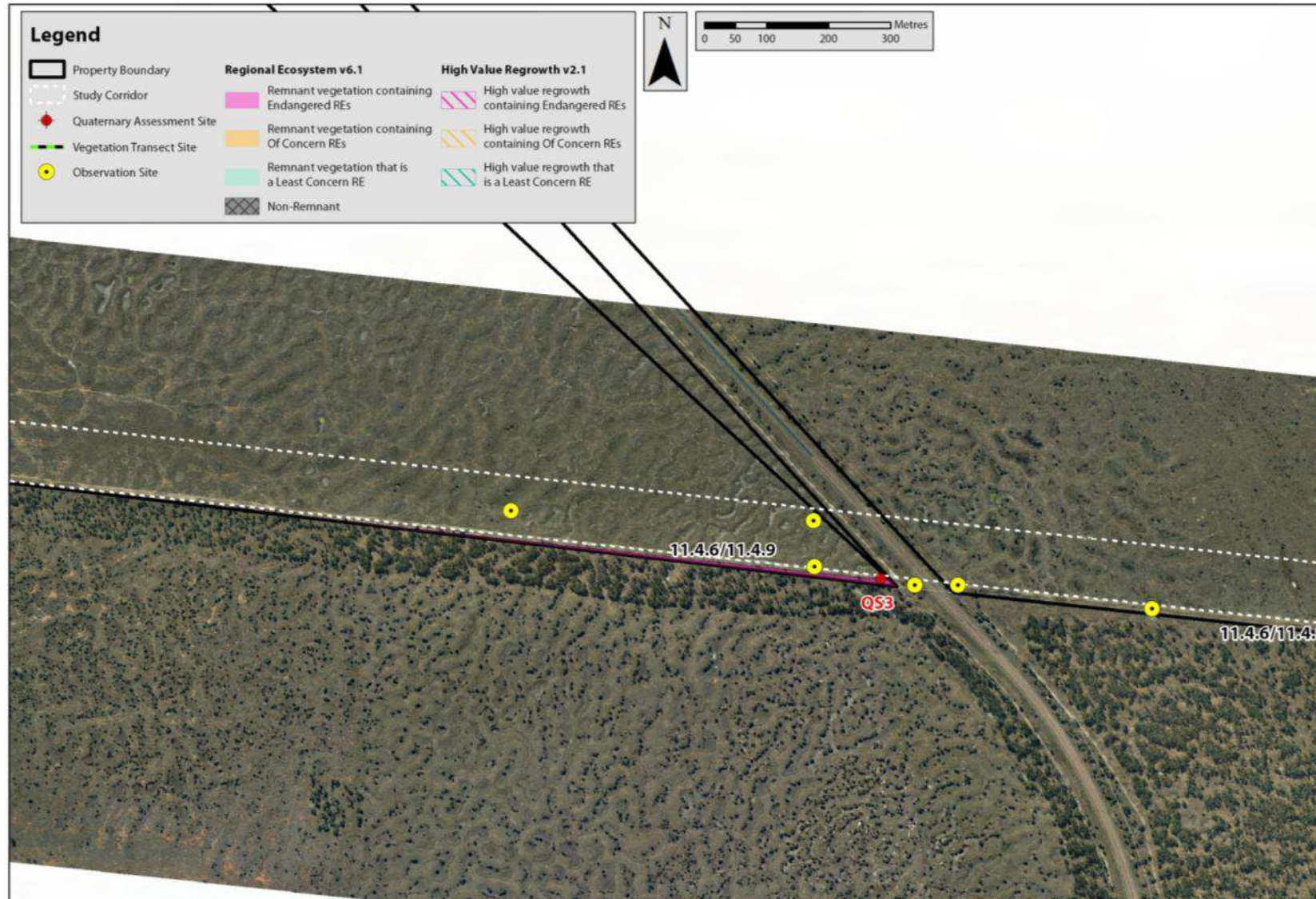


**Figure 29: Regional Ecosystem and Survey Effort (Disney Area B – Polygon 1)**





**Figure 30: Regional Ecosystem Changes (Disney Area B – Polygon 1)**





## 9.4. Disney Area C – Polygon I

**Table 33: Disney Area C – Polygon 1 Summary**

| Site Description                 |  |                 |
|----------------------------------|--|-----------------|
| Location:                        | Disney Property; Lot 4 on SP116046   |                 |
| Site Description:                | <p>The site is mapped as a composite vegetation community described as Endangered RE 11.4.6/11.4.9 including approximately 90% Of Concern RE 11.4.6 and 10% Endangered RE11.4.9.</p> <p>No remnant vegetation was observed within the investigation area that would satisfy the remnant vegetation criteria of 70% height and 50% crown cover for examples of RE 11.4.6 or 11.4.9.</p> <p>A very sparse shrub layer containing <i>Acacia harpophylla</i>, <i>Terminalia oblongata</i> and <i>Carrisa ovata</i> less than 1m in height was observed in the area.</p> <p>A dense groundlayer dominated by the exotic grass <i>Pennisetum ciliare</i> was also observed. Some native grasses including <i>Dichanthium sericeum</i> and <i>Panicum decompositum</i> are present in very low densities.</p> <p>The current errors associated with the line work of the mapped polygon are a result of scaling issues associated with RE map production.</p> <p>Refer to Quaternary site 4 &amp; 6 in Appendix F and Figure 32 for proposed mapping changes.</p> |                 |
| Datum:                           | GDA94 (MGA55)  |                 |
| Eastings/Northings               | Eastings   | Northings       |
|                                  | 21° 50' 52.47"   | 147° 02' 33.02" |
| Regional Ecosystem Profile       |  |                 |
| Current RE Mapping (Version 6.1) | Endangered RE 11.4.6 / 11.4.9  |                 |
| Regional Ecosystem Observed:     | Non remnant  |                 |
| Width of RE:                     | -  |                 |



**Photo: Disney Area C – Polygon 1**

*Remnant mapped polygon of RE Endangered RE 11.4.6/11.4.9. The investigation area is dominated with *Pennisetum ciliare* (Buffel Grass).*



## 9.5. Disney Area C – Polygon 2

**Table 34: Disney Area C – Polygon 2 Summary**

| Site Description                 |  |                 |
|----------------------------------|--|-----------------|
| Location:                        | Disney Property; Lot 4 on SP116046   |                 |
| Site Description:                | <p>The polygon is mapped as containing Least Concern patch of RE11.5.3. The area is clearly non remnant due to mapping errors associated with the scale of RE map production. However the mapped remnant polygon was observed within the adjoining property.</p> <p>Refer to Quaternary Site 5 in Appendix F and Figure 32 for proposed mapping changes.</p> |                 |
| Datum:                           | GDA94 (MGA55)  |                 |
| Eastings/Northings               | Eastings   | Northings       |
|                                  | 21° 50' 52.47"   | 147° 02' 33.02" |
| Regional Ecosystem Profile       |  |                 |
| Current RE Mapping (Version 6.2) | Least Concern RE11.5.3   |                 |
| Regional Ecosystem Observed      | Non Remnant  |                 |
| Width of RE:                     | Not linear (20<50Ha)   |                 |



**Photo: Disney Area C – Polygon 2**

*Remnant mapped polygon described as Least Concern RE11.5.3. The area is clearly Non remnant*

**Legend**

- Property Boundary
- Study Corridor
- Quaternary Assessment Site
- Vegetation Transect Site
- Observation Site

**Regional Ecosystem v6.1**

- Remnant vegetation containing Endangered REs
- Remnant vegetation containing Of Concern REs
- Remnant vegetation that is a Least Concern RE

**High Value Regrowth v2.1**

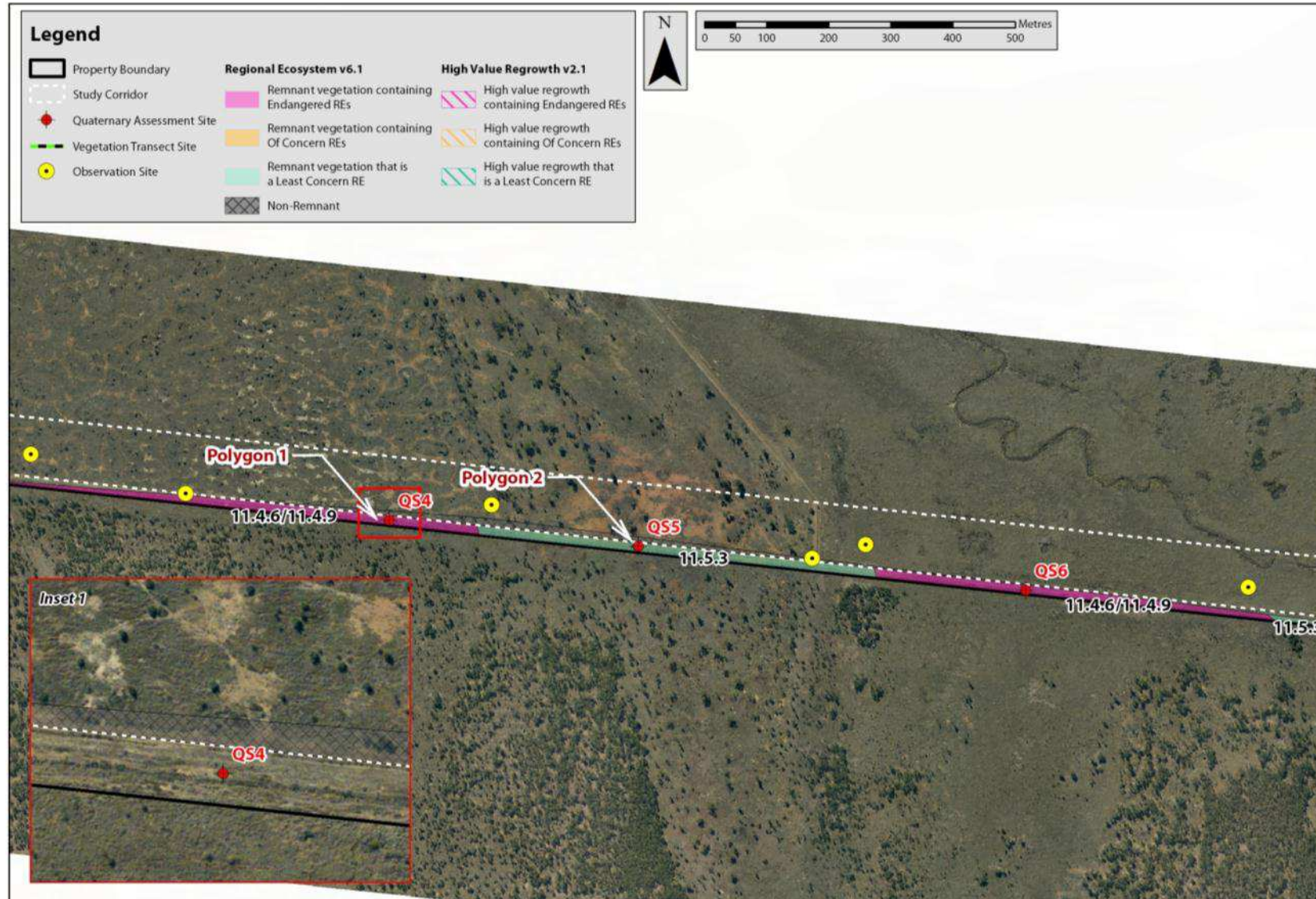
- High value regrowth containing Endangered REs
- High value regrowth containing Of Concern REs
- High value regrowth that is a Least Concern RE

**Map Labels:**

- Inset 1
- 11.4.6/11.4.9
- 11.5.3
- 11.4.6/11.4.9
- 11.5
- Polygon 1
- Polygon 2
- QS4
- QS5
- QS6



**Figure 32: Regional Ecosystem Changes (Disney Area C – Polygon 1 & 2)**





## 9.6. Disney Area D – Polygon I

**Table 35: Disney Area C – Polygon 1 Summary**

| Site Description                 |  |                 |
|----------------------------------|--|-----------------|
| Location:                        | Disney Property; Lot 4 on SP116046   |                 |
| Site Description:                | <p>The site is mapped as a composite vegetation community described as Endangered RE11.4.6/11.4.9.</p> <p>The site has been extensively cleared and is currently dominated by <i>Pennisetum ciliare</i> (Buffel Grass).</p> <p>A very sparse shrub layer was observed in the area and contained <i>Acacia harpophylla</i> and <i>Petalostigma pubescens</i> less than 1m in height.</p> <p>A dense groundlayer was observed that was dominated by the exotic grass <i>Pennisetum ciliare</i>. Some native grasses including <i>Dichanthium sericeum</i> and <i>Aristida latifolia</i> were observed in very low densities.</p> <p>The area shows high levels of disturbance from grazing and historical vegetation clearing.</p> <p>Refer to Quaternary site 7 in Appendix F and Figure 34 for proposed mapping changes.</p> |                 |
| Datum:                           | GDA94 (MGA55)  |                 |
| Eastings/Northings               | Eastings   | Northings       |
|                                  | 21° 50' 59.27"   | 147° 03' 55.45" |
| Regional Ecosystem Profile       |  |                 |
| Current RE Mapping (Version 6.1) | Endangered RE 11.4.6 / 11.4.9  |                 |
| Regional Ecosystem Observed:     | Non remnant  |                 |
| Width of RE:                     | Not linear (< 5ha)   |                 |



**Photo: Disney Area C – Polygon 1**

*Mapped Remnant area dominated with *Pennisetum ciliare* (Buffel Grass). The area is clearly non remnant.*



## 9.7. Disney Area D – Polygon 2

**Table 36: Disney Area D – Polygon 2 Summary**

| Site Description                 |   |                 |
|----------------------------------|---|-----------------|
| Location:                        | Disney Property; Lot 4 on SP116046(East side of Gregory Development Road)   |                 |
| Site Description:                | <p>The site is mapped as a composite vegetation community described as Least Concern RE11.7.3/11.7.2.</p> <p>A very sparse shrub layer was observed in the area and contained <i>Acacia harpophylla</i> and <i>Petalostigma pubescens</i> less than 1m in height.</p> <p>A dense ground layer dominated by the exotic grass <i>Pennisetum ciliare</i> was observed with occasional native grasses including <i>Dichanthium sericeum</i>, <i>Leptochloa digitata</i> and <i>Aristida latifolia</i>.</p> <p>The area shows high levels of disturbance from grazing and historical vegetation clearing.</p> <p>Vegetation would not satisfy the Vegetation Management Act remnant vegetation criteria of 70% height and 50% crown cover.</p> <p>Refer to Quaternary site 8 in Appendix F and Figure 34 for proposed mapping changes.</p> |                 |
| Datum:                           | GDA94 (MGA55)   |                 |
| Eastings/Northings               | Eastings  | Northings       |
|                                  | 21° 51' 05.53"  | 147° 04' 33.41" |
| Regional Ecosystem Profile       |   |                 |
| Current RE Mapping (Version 6.1) | Least Concern RE 11.7.3 / 11.7.2  |                 |
| Regional Ecosystem Observed:     | Non remnant   |                 |
| Width of RE:                     | Not linear (< 5ha)  |                 |

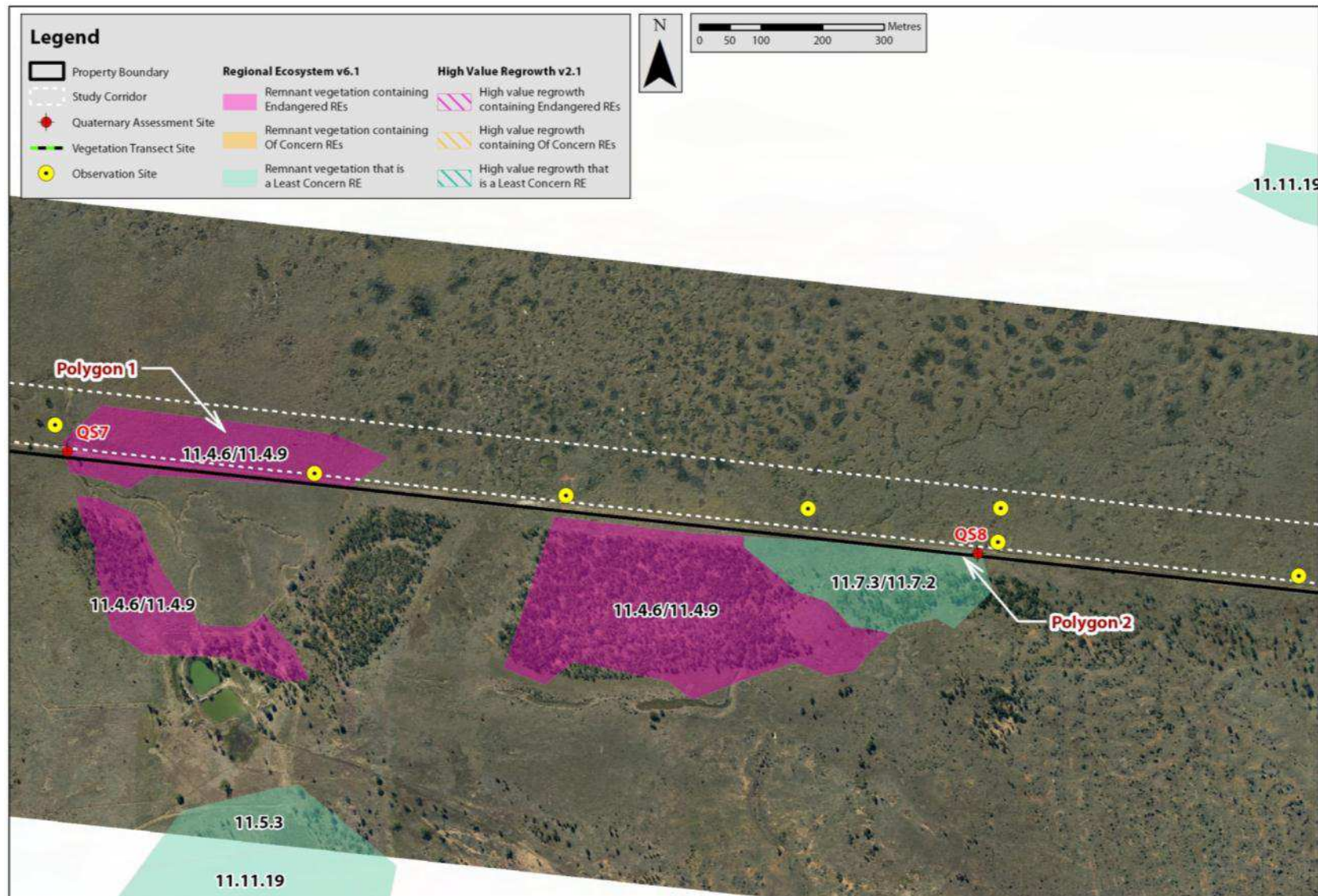


**Photo: Disney Area D – Polygon 2**

*Non remnant area currently mapped as Least Concern RE11.7.3/11.7.2.*

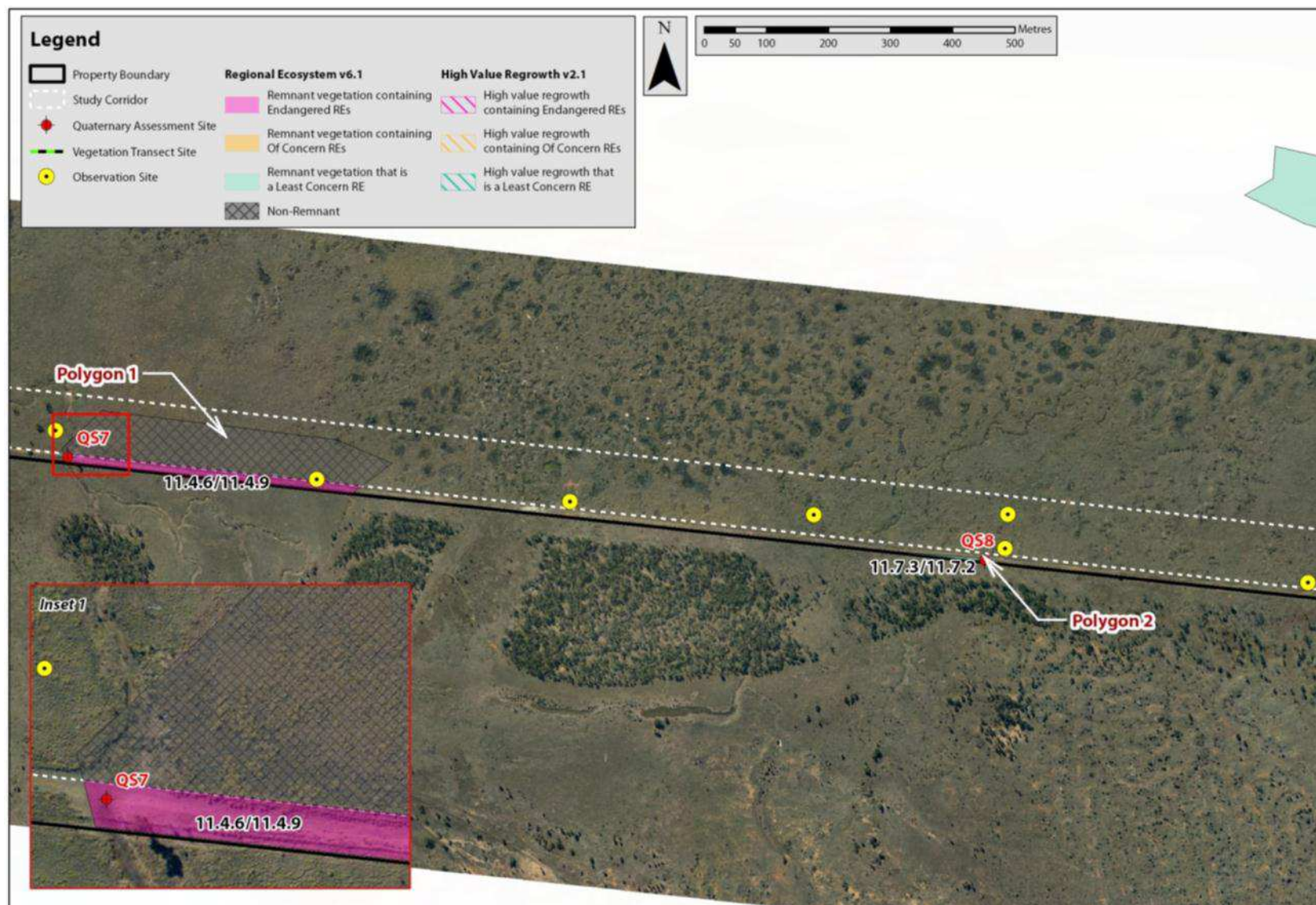


**Figure 33: Regional Ecosystem and Survey Effort (Disney Area D – Polygon 1 & 2)**





**Figure 34: Regional Ecosystem Changes (Disney Area D – Polygon 1 & 2)**





## 9.8. Disney Area E – Polygon I

**Table 37: Disney Area E – Polygon 1 Summary**

| Site Description                 |  |                 |
|----------------------------------|--|-----------------|
| Location:                        | Disney Property; Lot 4 on SP116046   |                 |
| Site Description:                | <p>The site is mapped as Endangered RE11.9.10. The area is clearly non remnant and incorrectly mapped.</p> <p>The site has been extensively cleared of the majority of vegetation values with a very sparse shrub layer containing <i>Acacia harpophylla</i> less than 1m in height observed.</p> <p>A dense groundlayer dominated by exotic grass <i>Pennisetum ciliare</i> was observed with occasional native grasses including <i>Dichanthium sericeum</i>, <i>Leptochloa digitata</i> and <i>Aristida latifolia</i>.</p> <p>Refer to Quaternary site 11 in Appendix F and Figure 36 for proposed mapping changes.</p> |                 |
| Datum:                           | GDA94 (MGA55)  |                 |
| Eastings/Northings               | Eastings   | Northings       |
|                                  | 21° 50' 59.27"   | 147° 03' 55.45" |
| Regional Ecosystem Profile       |  |                 |
| Current RE Mapping (Version 6.1) | Endangered RE 11.9.10  |                 |
| Regional Ecosystem Observed:     | Non remnant  |                 |
| Width of RE:                     | Not linear (< 5ha)   |                 |



## 9.9. Disney Area E – Polygon 2

**Table 38: Disney Area E – Polygon 2 Summary**

| Site Description                 |   |                 |
|----------------------------------|---|-----------------|
| Location:                        | Disney Property; Lot 4 on SP116046  |                 |
| Site Description:                | <p>The site is located within a mapped composite vegetation community comprised of approximately 60% Of Concern RE 11.9.10 and 40% Endangered RE11.4.8.</p> <p>Approximately 700 square metres of the polygon is mapped within the application area. Vegetation clearing along the property boundary has resulted in the vegetation polygon located outside of the investigation area.</p> <p>A very sparse shrub layer was observed in the area less than 1m in height.</p> <p>A dense groundlayer was observed that was dominated by the exotic grass <i>Pennisetum ciliare</i>. Some native grasses including <i>Dichanthium sericeum</i> and <i>Aristida latifolia</i> were observed in very low densities.</p> <p>The area shows high levels of disturbance from grazing and historical vegetation clearing.</p> <p>Refer to Quaternary site 9 in Appendix F and Figure 36 for proposed mapping changes.</p> |                 |
| Datum:                           | GDA94 (MGA55)   |                 |
| Eastings/Northings               | Eastings  | Northings       |
|                                  | 21° 51' 19.53"  | 147° 07' 08.65" |
| Regional Ecosystem Profile       |   |                 |
| Current RE Mapping (Version 6.1) | Endangered RE 11.9.10 / 11.4.8  |                 |
| Regional Ecosystem Observed:     | Non remnant   |                 |
| Width of RE:                     | Not linear (< 5ha)  |                 |



**Photo: Disney Area E – Polygon 2**

*The area mapped as remnant within the investigation area is dominated with *Pennisetum ciliare* (Buffel Grass). Vegetation clearing has occurred within the adjacent property along the existing boundary which has resulted in the removal of the remnant mapped polygon.*



## 9.10. Disney Area E – Polygon 3

**Table 39: Disney Area E – Polygon 3 Summary**

| Site Description                 |  |                 |
|----------------------------------|--|-----------------|
| Location:                        | Disney Property; Lot 4 on SP116046(East side of Gregory Development Road)  |                 |
| Site Description:                | <p>The site is located within a mapped Endangered composite RE 11.4.9</p> <p>The site has been extensively cleared of almost all vegetation values and is currently dominated by <i>Pennisetum ciliare</i> (Buffel Grass). Some native grasses including <i>Dichanthium sericeum</i>, <i>Leptochloa digitata</i> and <i>Aristida latifolia</i> were observed in very low densities.</p> <p>A very sparse shrub layer was observed in the area and contained <i>Acacia harpophylla</i> and <i>Petalostigma pubescens</i> less than 1m in height.</p> <p>Refer to Quaternary site 10 in Appendix F and Figure 36 for proposed mapping changes.</p> |                 |
| Datum:                           | GDA94 (MGA55)  |                 |
| Eastings/Northings               | Eastings   | Northings       |
|                                  | 21° 51' 19.93"   | 147° 07' 13.60" |
| Regional Ecosystem Profile       |  |                 |
| Current RE Mapping (Version 6.1) | Endangered RE 11.4.9   |                 |
| Regional Ecosystem Observed:     | Non remnant  |                 |
| Width of RE:                     | Not linear (< 5ha)   |                 |

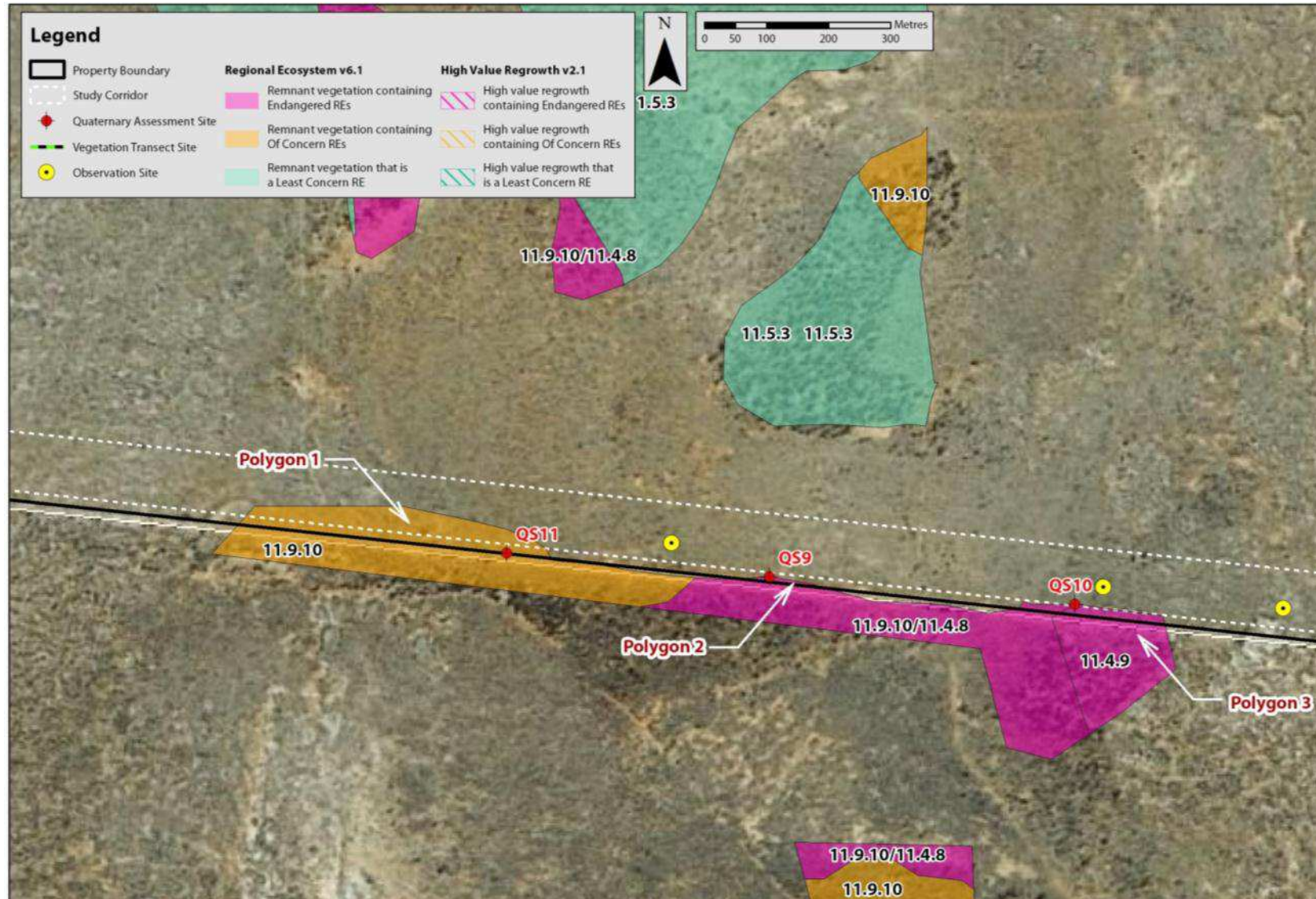


**Photo: Disney Area E – Polygon 3**

*The mapped as remnant area is dominated with *Pennisetum ciliare* (Buffel Grass). The area is clearly non remnant.*

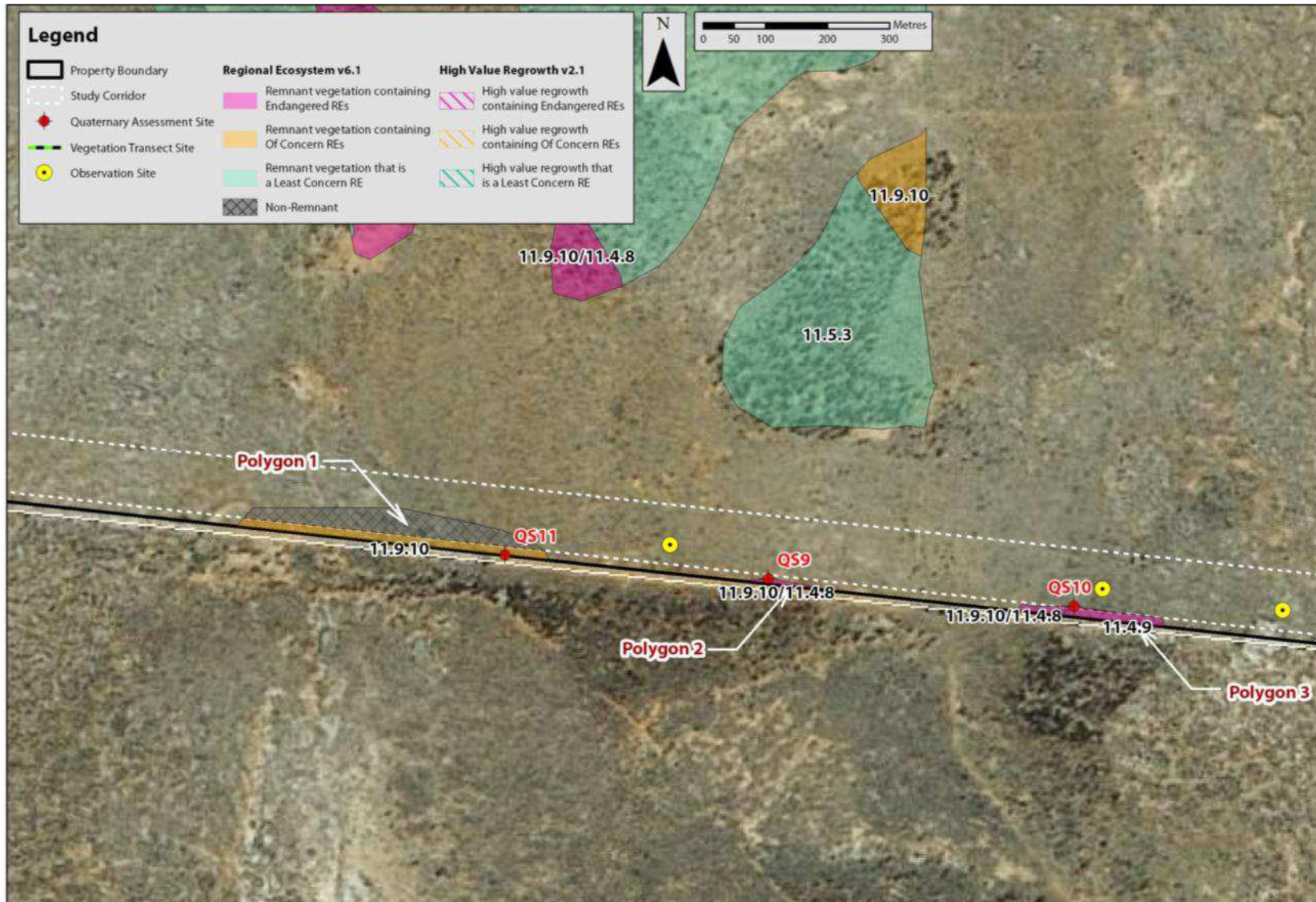


**Figure 35: Regional Ecosystem and Survey Effort (Disney Area E – Polygon 1 -3)**





**Figure 36: Regional Ecosystem Changes (Disney Area E – Polygon 1 -3)**





## IO. Avon Downs

The Avon Downs property is a large landholding and the last property making up SP-1 rail corridor. The rail corridor extends through another property (Talki Station) midway through Avon Downs.

The western half of Avon Downs is mostly clear of vegetation beyond a patch of confirmed 'Endangered' RE 11.4.9 which forms part of a large patch of vegetation connected to the north. This 'Endangered' vegetation provides a good example of RE 11.4.9 when compared to other mapped areas on-site. Review of aerial imagery for this location provides a good comparison for incorrectly mapped areas of RE 11.4.9 along the rail corridor.

The eastern half of Avon Downs is affected by a range of RE mapping associated with tributaries of Logan Creek and extensive cainozoic plains mapped as 'Endangered RE 11.4.11/11.4.9. The endangered mapping is incorrect in the vicinity of the rail corridor and is easily discernible when compared to the mapped polygon of RE 11.4.9 in the west. Based on the detailed field assessment, the application site within the Avon Property has been divided into three (3) assessment areas based on the location of the mapped remnant polygons and status of the regional ecosystem community.

**Table 40: Avon Downs Summary**

| Site                           | Current RE Mapping<br>Version 6.1                                | Current RE Mapping<br>Version 6.1 (Area) | RE Observed                  | RE Observed<br>(Area) |
|--------------------------------|--|--|------------------------------|-----------------------|
| <b>Avon Area A – Polygon 1</b> | Endangered RE 11.5.3/11.7.2/11.4.9                               | 7.2 ha                                   | Endangered RE 11.4.9         | 6.7 ha                |
| <b>Avon Area A – Polygon 2</b> | Endangered RE 11.4.9   | 3.2 ha                                   | Endangered RE 11.4.9         | 3.2 ha                |
| <b>Avon Area A – Polygon 3</b> | Endangered Regrowth of 11.4.9                                    | 0.9 ha                                   | Endangered RE 11.4.9         | 0.9 ha                |
| <b>Avon Area A – Polygon 4</b> | Endangered RE 11.4.9   | 2.9 ha                                   | Endangered RE 11.4.9         | 2.9 ha                |
| <b>Avon Area B – Polygon 1</b> | Of Concern RE 11.3.3 / 11.3.37                                   | 1.8 ha                                   | Of Concern RE11.3.3          | 1.4 ha                |
| <b>Avon Area C – Polygon 1</b> | Of Concern RE 11.3.3 / 11.3.25                                   | 2.6 ha                                   | Of Concern RE11.3.3          | 2.6 ha                |
| <b>Avon Area C – Polygon 2</b> | Of Concern RE 11.3.3 / 11.3.37<br>Endangered RE 11.4.9 / 11.4.11 | 74.6 ha                                  | Of Concern RE11.4.11         | 74.6 ha               |
| <b>Avon Area C – Polygon 3</b> | Least Concern RE 11.4.4  | 8.8 ha                                   | Least Concern RE 11.4.4      | 8.8 ha                |
| <b>Avon Area C – Polygon 4</b> | Of Concern RE 11.4.11/11.4.6                                     | 0.5 ha                                   | Of Concern RE 11.4.11/11.4.6 | 0.5 ha                |



## IO.I. Avon Area A – Polygon I

**Table 41: Avon Area A – Polygon 1 Summary**

| Site Description                 |  |                |
|----------------------------------|--|----------------|
| Location:                        | Avon Downs, Lot 10 on BL49   |                |
| Site Description:                | <p>The site is located within an Endangered mapped vegetation community described as RE 11.5.3/11.7.2/11.4.9. The broader composite vegetation community is described as comprising of 60% RE 11.5.3, 20% RE 11.7.2 and 20% RE 11.4.9 which includes three different landzone associations.</p> <p>The mapped remnant polygon is located centrally on the western side of the application area. The vegetation community observed is dominated by <i>Acacia harpophylla</i> (Brigalow) and consistent with Endangered RE 11.4.9.</p> <p>In addition species consistent with RE11.7.2 were also observed. Species associated with RE 11.5.3 were not observed. The presence of species from RE 11.7.2 is potentially a result of smaller scale landzone variations.</p> <p>The site is heavily vegetated but is currently heavily grazed and contains <i>Pennisetum ciliare</i> (Buffel Grass) within the ground layer greater than 50%. Refer to Figure 38.</p> <p>Refer to Transect 1 and Quaternary sites 1, 2 and 3 within Appendix G and Figure 38 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)  |                |
| Eastings/Northings               | Eastings   | Northings      |
|                                  | 515608.08 m E  | 7582812.07 m S |
| Regional Ecosystem Profile       |  |                |
| Current RE Mapping (Version 6.1) | Endangered RE 11.5.3/11.7.2/11.4.9   |                |
| Regional Ecosystem Observed:     | Endangered RE 11.4.9   |                |
| Width of RE:                     | Not linear (>20ha)   |                |



**Photo: Avon Area A – Polygon 1**

*Mapped remnant polygon of Endangered RE 11.4.9.*



## 10.2. Avon Area A – Polygon 2

**Table 42: Avon Area A – Polygon 2 Summary**

| Site Description                 |   |            |
|----------------------------------|---|------------|
| Location:                        | Avon Downs, Lot 10 on BL49  |            |
| Site Description:                | <p>The site is located within a mapped Endangered vegetation community dominated by <i>Acacia harpophylla</i>, RE 11.4.9. Refer to Figure 37.</p> <p>Vegetation structure and species composition confirm the presence of RE 11.4.9.</p> <p>The remnant polygon adjoins a heterogeneous polygon to the west. The site is heavily vegetated but is also heavily grazed and contains <i>Pennisetum ciliare</i> (Buffel Grass) within the ground layer.</p> <p>Refer to Transect 2 and Quaternary site 4 in Appendix G and Figure 38 for the proposed changes.</p> |            |
| Datum:                           | GDA94 (MGA55)   |            |
| Eastings/Northings               | Eastings  | Northings  |
|                                  | 7582044.23N   | 516143.74E |
| Regional Ecosystem Profile       |   |            |
| Current RE Mapping (Version 6.1) | Endangered RE 11.4.9  |            |
| Regional Ecosystem Observed:     | Endangered RE 11.4.9  |            |
| Width of RE:                     | Not linear (>20ha)  |            |



**Photo: Avon Area A – Polygon 2**

*Mapped remnant polygon of Endangered RE 11.4.9.*



### 10.3. Avon Area A – Polygon 3

**Table 43: Avon Area A – Polygon 3 Summary**

| Site Description                 |  |                |
|----------------------------------|--|----------------|
| Location:                        | Avon Downs, Lot 10 on BL49   |                |
| Site Description:                | <p>The site is located within a mapped Endangered High Value Regrowth vegetation community dominated by <i>Acacia harpophylla</i>. Refer to Figure 37.</p> <p>The regrowth polygon adjoins a remnant patch of RE 11.4.9. The regrowth observed had a species composition consistent with a regrowth community of RE11.4.9.</p> <p>The site is currently highly disturbed and shows signs of previous historical clearing and heavy grazing. The exotic/introduced grass, <i>Pennisetum ciliare</i> (Buffel Grass), was identified within the ground layer in densities greater than 50% cover.</p> <p>Species are consistent with those expected for High Value Regrowth of RE 11.4.9 and are as described in species list for Transect 3.</p> <p>Refer to species list for Transect 3 in Appendix G and Figure 38 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)  |                |
| Eastings/Northings               | Eastings   | Northings      |
|                                  | 516687.69 m E  | 7582577.99 m S |
| Regional Ecosystem Profile       |  |                |
| Current RE Mapping (Version 6.1) | Endangered RE 11.4.9   |                |
| Regional Ecosystem Observed:     | Endangered RE 11.4.9   |                |
| Width of RE:                     | Not linear (>20ha)   |                |



**Photo: Avon Area A – Polygon 3**

*Mapped High Value Regrowth polygon of Endangered RE 11.4.9.*



## IO.4. Avon Area A – Polygon 4

**Table 44: Avon Area A – Polygon 4 Summary**

| Site Description                 |  |                |
|----------------------------------|--|----------------|
| Location:                        | Avon Downs, Lot 10 on BL49   |                |
| Site Description:                | <p>The site is located within a mapped Endangered vegetation community dominated by <i>Acacia harpophylla</i> and currently mapped as Endangered RE 11.4.9 Refer to Figure 37.</p> <p>The site is located towards the north west boundary of the Avon Downs property. Species recorded and landzone observed are consistent with Endangered RE 11.4.9.</p> <p>The site has undergone various degrees of disturbances due to cattle grazing. Vegetation clearing adjacent to the mapped polygon has also resulted in the invasion of weed species throughout the ground layer.</p> <p>Refer to Transect 3 in Appendix G and Figure 38 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)  |                |
| Latitude / Longitude             | Latitude   | Longitude      |
|                                  | 516687.69 m E  | 7582577.99 m S |
| Regional Ecosystem Profile       |  |                |
| Current RE Mapping (Version 6.1) | Endangered RE 11.4.9   |                |
| Regional Ecosystem Observed:     | Endangered RE 11.4.9   |                |
| Width of RE:                     | Not linear (20<50ha)   |                |

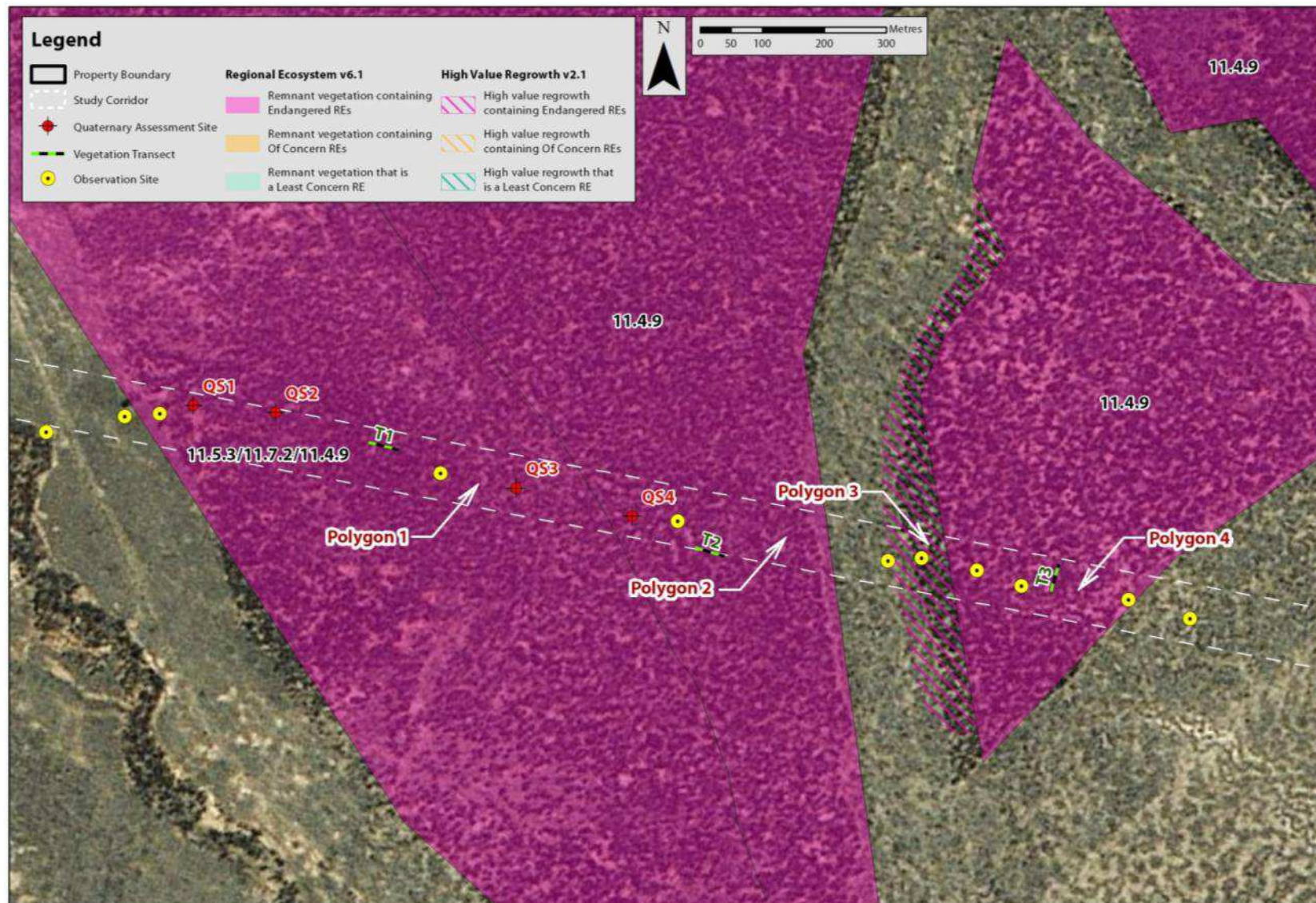


**Photo: Avon Area A – Polygon 4**

*Mapped remnant polygon of Endangered RE 11.4.9.*

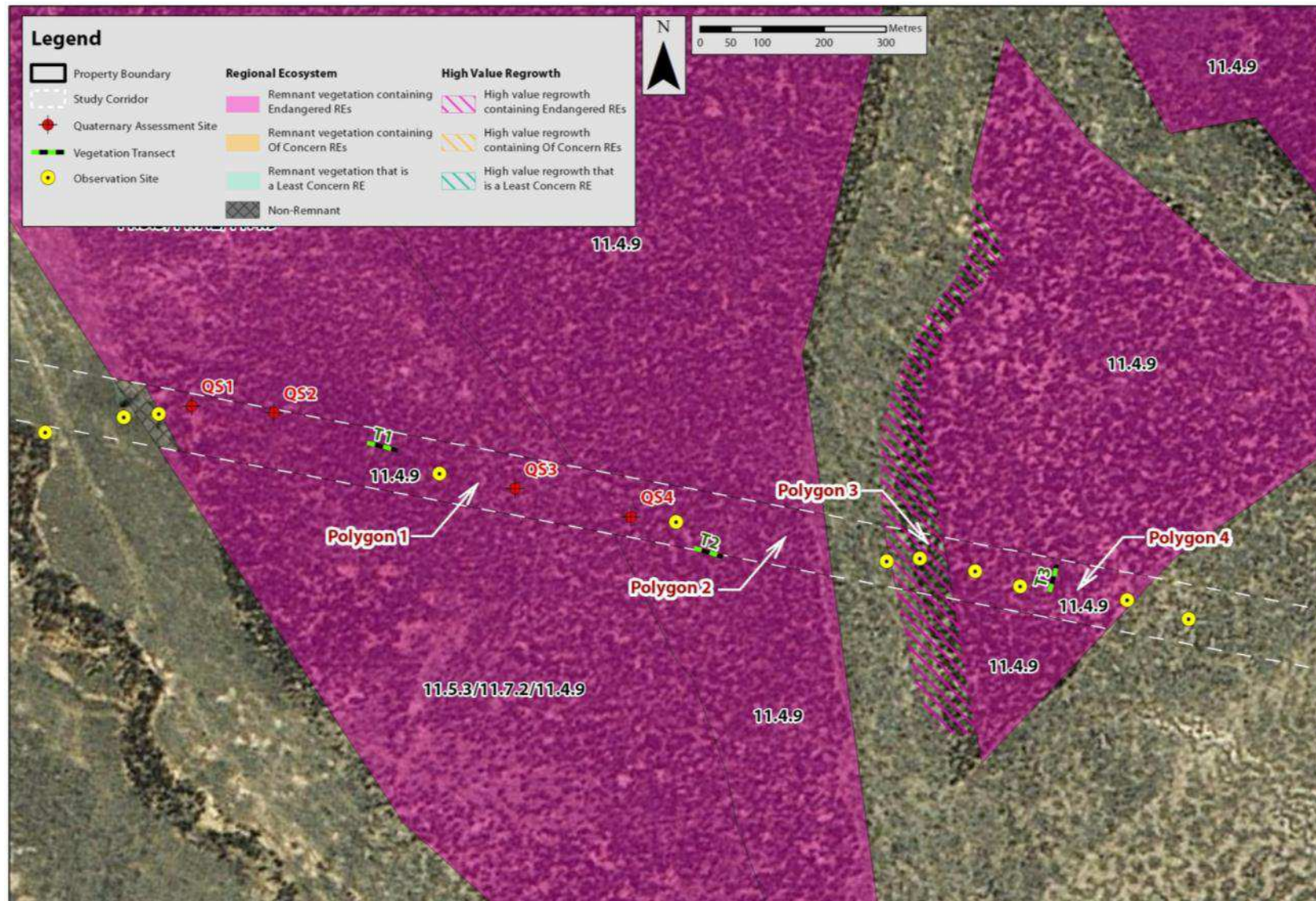


**Figure 37: Regional Ecosystem and Survey Effort (Avon Downs Area A – Polygon 1-4)**





**Figure 38: Regional Ecosystem Changes (Avon Downs Area A – Polygon 1-4)**





## IO.5.Avon Area B – Polygon I

**Table 45: Avon Area B – Polygon 1 Summary**

| Site Description                 |   |                |
|----------------------------------|---|----------------|
| Location:                        | Avon Downs, Lot 10 on BL49  |                |
| Site Description:                | <p>The site is located the Avon Downs property within an Of Concern mapped vegetation community described as RE 11.3.3/11.3.37.</p> <p>The mapped composite Regional Ecosystem is described as containing 90% Of Concern RE11.3.3 and 10% Least Concern RE11.3.37. The site is located within vegetation situated on an alluvial plain on the western side of Logan Creek (Refer to Figure 39).</p> <p><i>Eucalyptus coolabah</i> dominates the T1 layer within this area and the vegetation structure is consistent with RE 11.3.3. The mapped remnant polygon has very little weed invasion with the ground layer is dominated by native grass and forb species.</p> <p>The eastern edge of this polygon has been historically cleared and is non remnant as demonstrated by aerial imagery. The error is likely a result of scaling issues associated with RE map production.</p> <p>Refer to Transect 4 in Appendix G and Figure 40 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)   |                |
| Latitude / Longitude             | Latitude  | Longitude      |
|                                  | 524535.00 m E   | 7581085.00 m S |
| Regional Ecosystem Profile       |   |                |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.3.3 / 11.3.37  |                |
| Regional Ecosystem Observed:     | Of Concern RE11.3.3   |                |
| Width of RE:                     | Not linear (20<50ha)  |                |

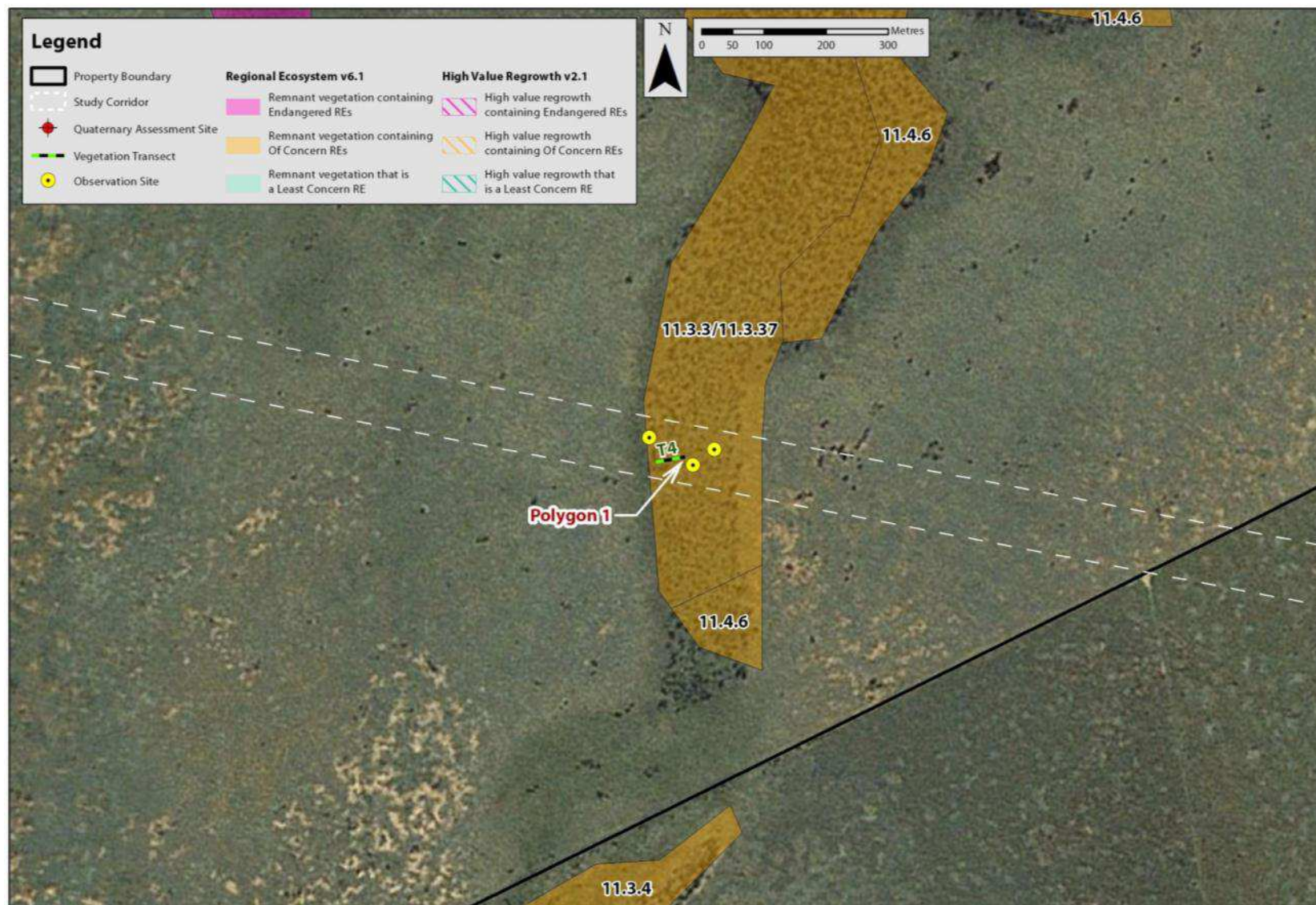


**Photo: Avon Area B – Polygon 1**

*Mapped remnant polygon of Of Concern RE 11.3.3 described as Eucalyptus coolabah woodland on alluvial plain. Note lack of fringing watercourse vegetation.*

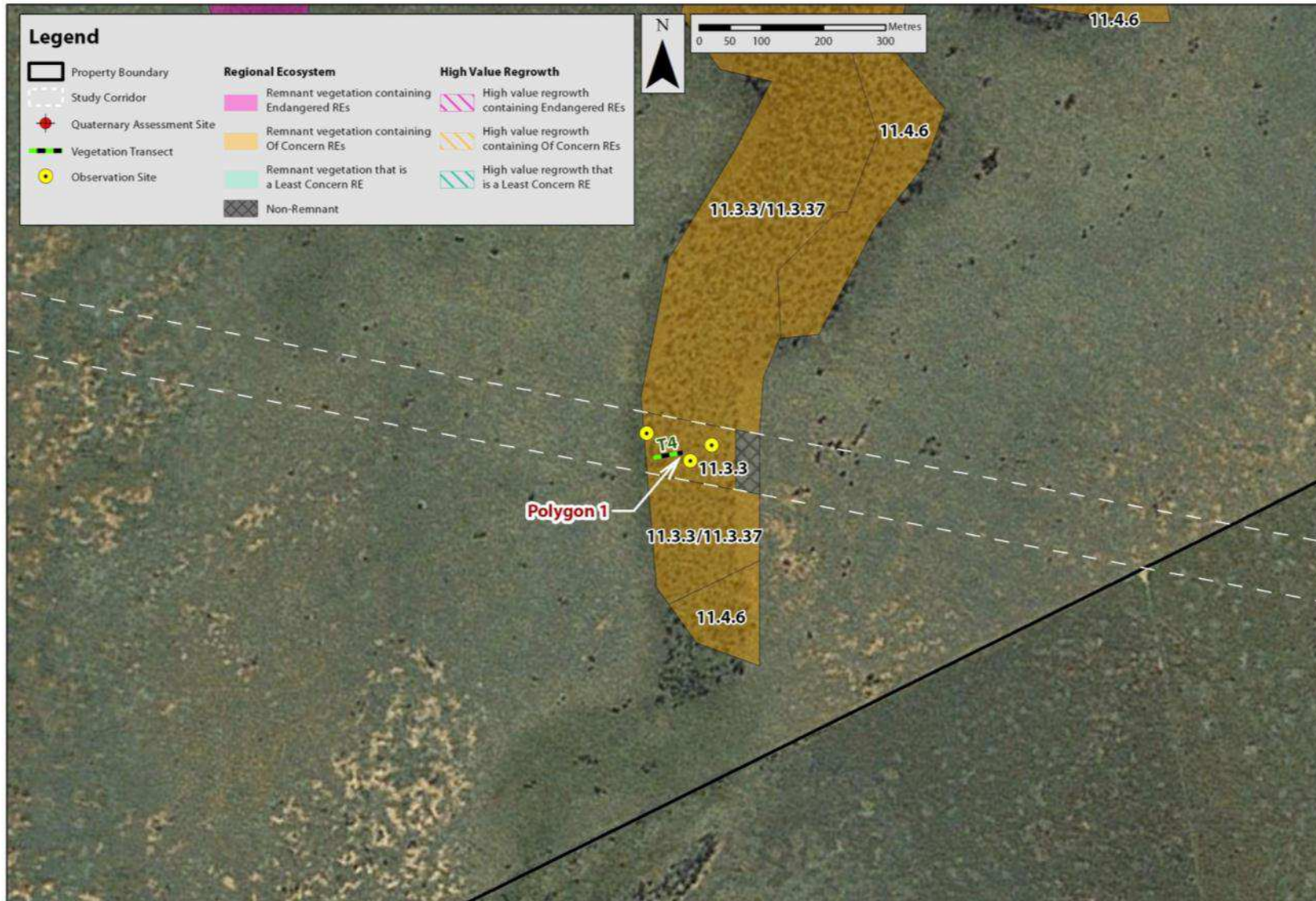


**Figure 39: Regional Ecosystem and Survey Effort (Avon Downs Area B – Polygon 1)**





**Figure 40: Regional Ecosystem Changes (Avon Downs Area A – Polygon 1)**





## 10.6. Avon Area C – Polygon I

**Table 46: Avon Area C – Polygon 1 Summary**

| Site Description                 |   |                |
|----------------------------------|---|----------------|
| Location:                        | Avon Downs, Lot 10 on BL49  |                |
| Site Description:                | <p>The site is located within a Least Concern mapped vegetation community described as RE 11.3.3/11.3.25.</p> <p>The site includes vegetation situated on an alluvial plain associated with the Eastern side of Logan Creek. Refer to Figure 41a.</p> <p>Vegetation structure and species composition are consistent with 11.3.3 <i>Eucalyptus coolabah</i> woodland on alluvial plains.</p> <p>The mapped remnant polygon has very little weed invasion with the ground layer dominated by native grass and forb species.</p> <p>Refer to Transect 4 in Appendix G and Figure 42a.</p> |                |
| Datum:                           | GDA94 (MGA55)   |                |
| Latitude / Longitude             | Latitude  | Longitude      |
|                                  | 527927.55 m E   | 7580435.23 m S |
| Regional Ecosystem Profile       |   |                |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.3.3 / 11.3.25  |                |
| Regional Ecosystem Observed:     | Of Concern RE11.3.3   |                |
| Width of RE:                     | Not linear (20<50ha)  |                |



**Photo: Avon Area C – Polygon 1**

*Mapped remnant polygon of Endangered RE 11.3.3*



## IO.7. Avon Area C – Polygon 2

**Table 47: Avon Area C – Polygon 2 Summary**

| Site Description                 |   |            |
|----------------------------------|---|------------|
| Location:                        | Avon Downs, Lot 10 on BL49  |            |
| Site Description:                | <p>The site is located within an Endangered mapped vegetation community described as RE 11.4.11/11.4.9. The site is located within the Avon Downs property within mapped Endangered composite Regional Ecosystem including Of Concern RE11.4.11 and Endangered RE11.4.9.</p> <p>The species composition and vegetation structure is consistent with RE 11.4.11. <i>Acacia harpophylla</i> was observed within the remnant vegetation polygon but is consistent with <i>Acacia harpophylla</i> associated with RE 11.4.11 and not 11.4.9. The height of the <i>Acacia harpophylla</i> recorded (5-11m) and the clumping nature of its distribution indicates vegetation consistent with RE 11.4.11. <i>Acacia harpophylla</i> identified were of poor condition and exhibited signs of senescence. Numerous dead <i>Acacia harpophylla</i> were observed in a number of areas particularly to the western end of the polygon.</p> <p><i>Acacia harpophylla</i> associated with RE 11.4.9 should form a distinct canopy 11-17m in height as observed to the west of Avon Downs and clearly identifiable by aerial imagery..</p> <p>Species observed within the investigation area throughout the mapped Endangered polygon predominantly represent Regional Ecosystem 11.4.11 described as <i>Dichanthium sericum</i>, <i>astrebla</i> spp. and patchy <i>Acacia harpophylla</i>, <i>Eucalyptus coolabah</i> on Cainozoic clay plains. Species present are described via Transects 5, 6, 7 and 8 (Appendix F).</p> <p>The mapped polygon contains both areas of intact native grasslands and also highly disturbed areas containing numerous weedy ground layer species including <i>Pennisetum ciliare</i> (Buffel Grass) and <i>Parthenium hysterophorus</i> (Partheium).</p> <p>The area is utilised for cattle grazing and is therefore highly disturbed.</p> <p>The condition of the grassland areas surveyed showed varying degrees of disturbance with infestation of <i>Pennisetum ciliare</i> (Buffel Grass) ranging from 10%-90% cover.</p> <p>Refer to Transect 5, 6, 7 and 8 and Quaternary sites 5, 6, 7, 8 and 9 in Appendix G and Figure 42a-f for the proposed changes.</p> |            |
| Datum:                           | GDA94 (MGA55)   |            |
| Latitude / Longitude             | Latitude  | Longitude  |
|                                  | -21.874240  | 147.236967 |
| Regional Ecosystem Profile       |   |            |
| Current RE Mapping (Version 6.1) | Endangered RE 11.4.11/11.4.9  |            |
| Regional Ecosystem Observed:     | Of Concern RE11.4.11  |            |
| Width of RE:                     | Not linear (20<50ha)  |            |



**Photo: Avon Area C – Polygon 2**

*Mapped remnant polygon of Of Concern RE 11.4.11. Note patchy *Acacia harpophylla* less than 11m in height and indicating signs of senescence.*



**Photo: Avon Area C – Polygon 2**

*Mapped remnant polygon of Of Concern RE 11.4.11. Note absence of T1 and T2 layer.*



**Photo: Avon Area C – Polygon 2**

*Mapped remnant polygon of Of Concern RE 11.4.11. Note scattered Eucalyptus coolabah individuals to 12m in height with native grass and forb ground layer.*



**Photo: Avon Area C – Polygon 2**

*Mapped remnant polygon of Of Concern RE 11.4.11. Note scattered Eucalyptus coolabah individuals to 12m in height with native grass and forb ground layer.*



## 10.8. Avon Area C – Polygon 3

**Table 48: Avon Area C – Polygon 3 Summary**

| Site Description                 |   |                |
|----------------------------------|---|----------------|
| Location:                        | Avon Downs, Lot 10 on BL49  |                |
| Site Description:                | <p>The site is located within the Avon Downs property within mapped Least Concern RE 11.4.4. Refer to Figure 41f.</p> <p>The mapped remnant polygon has species composition and structure consistent with RE 11.4.4 which include <i>Panicum decompositum</i>, <i>Astrebla lappacea</i> and <i>Astrebla pectinata</i>. Some weed invasion from <i>Pennisetum ciliare</i> and <i>Parthenium hysterophorus</i> observed within the area subject to regular grazing by cattle.</p> <p>Refer to Quaternary Site 10 in Appendix G and Figure 42f. No mapping changes required.</p> |                |
| Datum:                           | GDA94 (MGA55)   |                |
| Latitude / Longitude             | Latitude  | Longitude      |
|                                  | 539744.31 m E   | 7578158.44 m S |
| Regional Ecosystem Profile       |   |                |
| Current RE Mapping (Version 6.1) | Least Concern RE 11.4.4   |                |
| Regional Ecosystem Observed:     | Least Concern RE 11.4.4   |                |
| Width of RE:                     | Not linear (>50ha)  |                |



**Photo: Avon Area C – Polygon 3**

*Mapped remnant polygon of Of Concern RE 11.4.4. Note occasional scattered Acacia and Eucalypt trees with native grass and forb ground layer.*



## IO.9. Avon Area C – Polygon 4

**Table 49: Avon Area C – Polygon 4 Summary**

| Site Description                 |  |                |
|----------------------------------|--|----------------|
| Location:                        | Avon Downs, Lot 10 on BL49   |                |
| Site Description:                | <p>The site is located within an Of Concern mapped vegetation community described as RE 11.4.11/11.4.6.</p> <p>The site is located within the Avon Downs property within mapped composite Regional Ecosystem described as containing 80% RE 11.4.11 and 20% RE11.4.6. Refer to Figure 41f.</p> <p>The mapped remnant polygon has very little weed invasion within the ground layer. The ground layer is dominated by a native grass understorey consistent with RE 11.4.11 and 11.4.6.</p> <p>Refer to Quaternary Site 11 in Appendix G and Figure 42f. No mapping changes proposed for this area.</p> |                |
| Datum:                           | GDA94 (MGA55)  |                |
| Latitude / Longitude             | Latitude   | Longitude      |
|                                  | 540238.10 m E  | 7578076.43 m S |
| Regional Ecosystem Profile       |  |                |
| Current RE Mapping (Version 6.1) | Of Concern RE 11..4.11/11.4.6  |                |
| Regional Ecosystem Observed:     | Of Concern RE 11.4.11/11.4.6   |                |
| Width of RE:                     | Not linear (10<20ha)   |                |

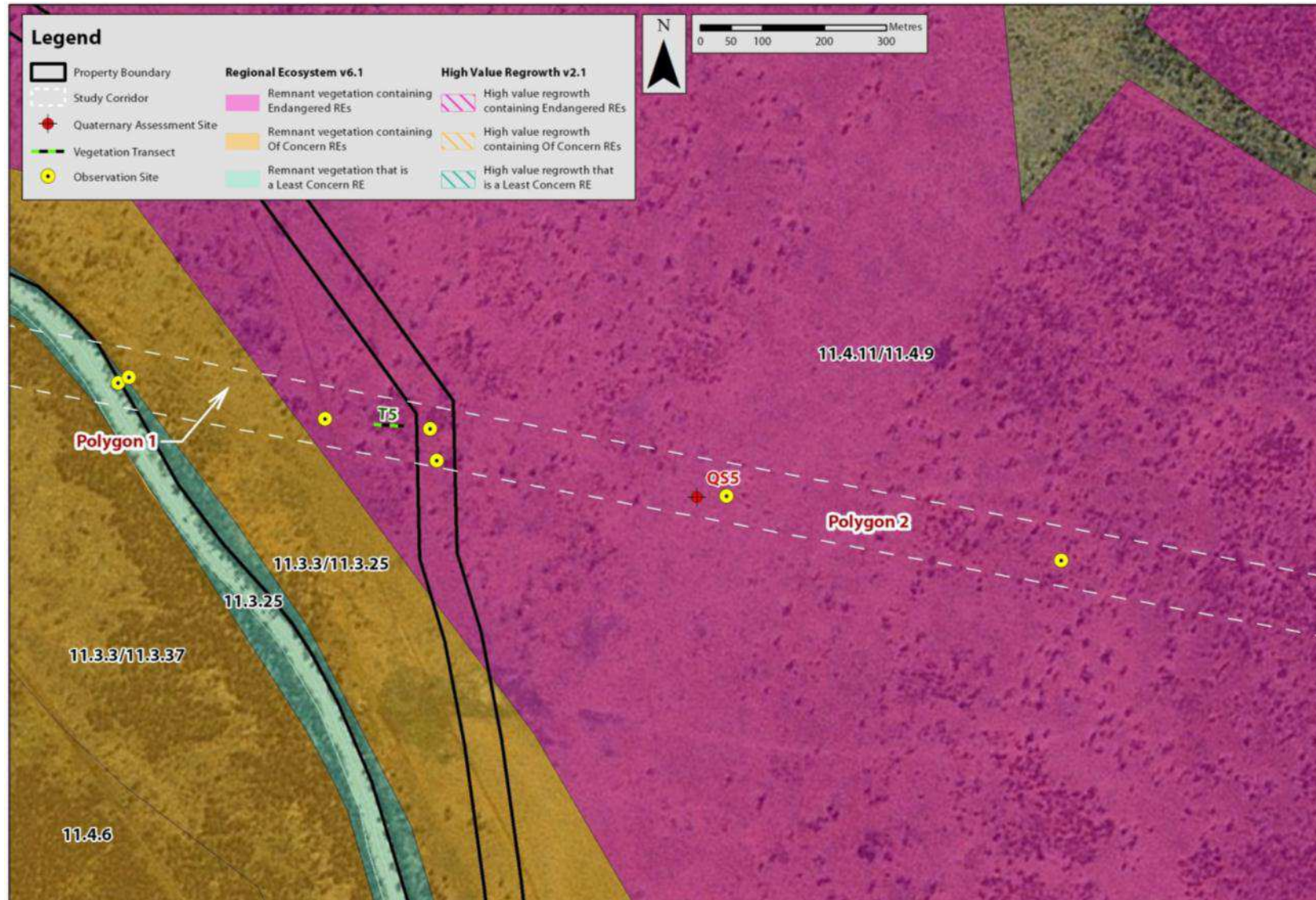


**Photo: Avon Area C – Polygon 4**

*Mapped remnant polygon of Of Concern RE 11.4.11/1.4.6. Note occasional scattered Acacia cambagei with dense native grass ground layer.*

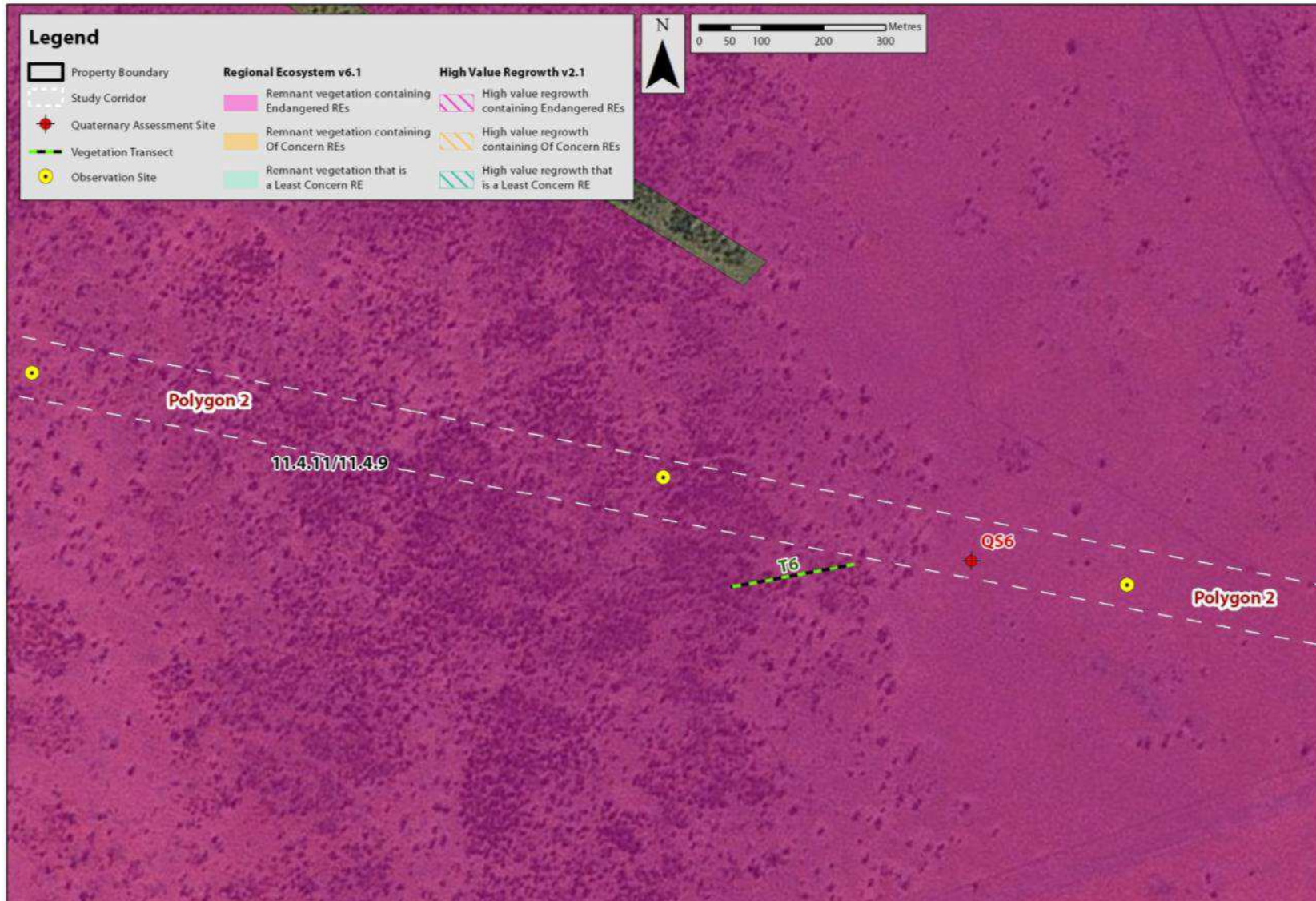


**Figure 41a: Regional Ecosystem and Survey Effort (Avon Downs Area C – Polygon 1-4)**



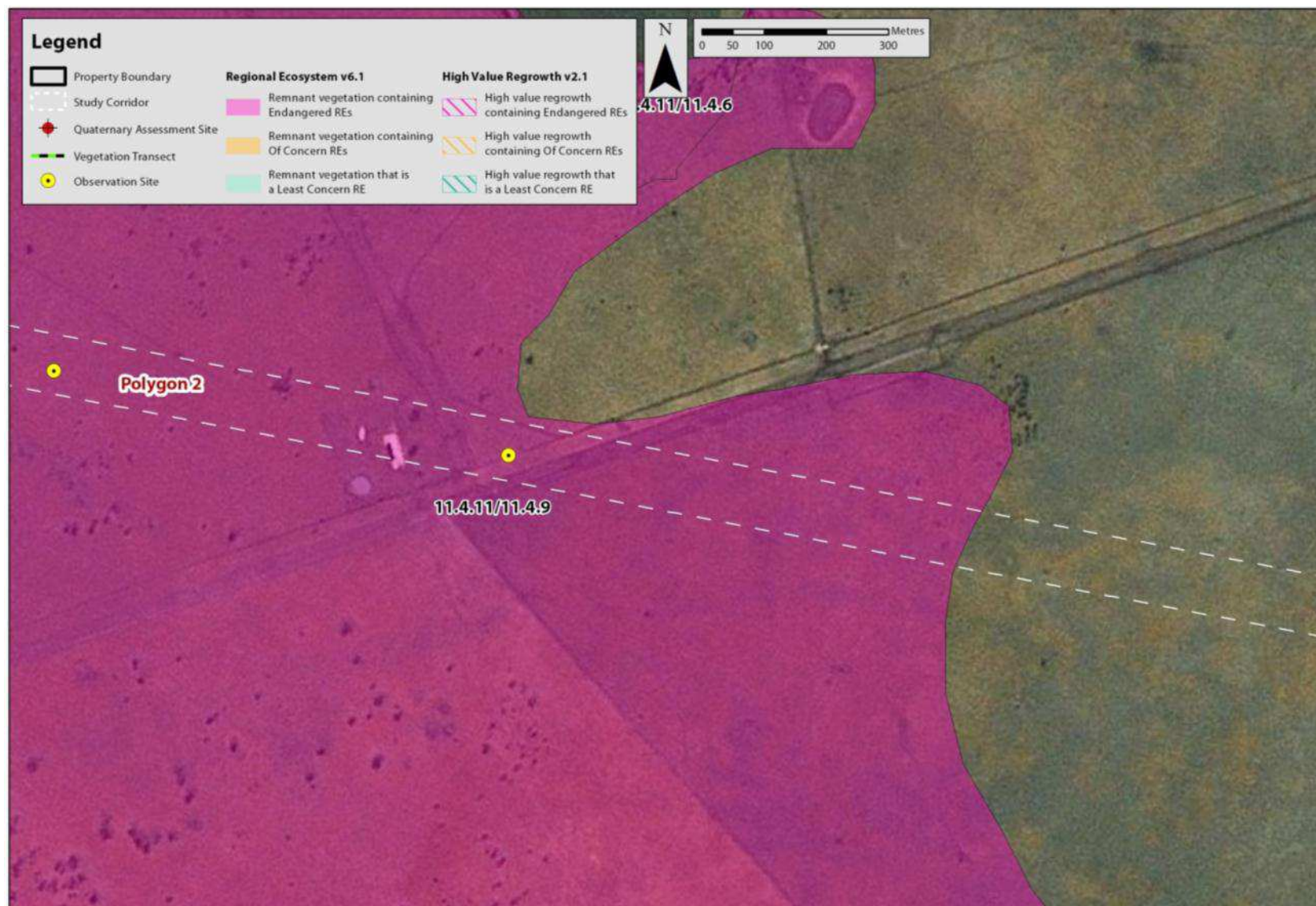


**Figure 41b: Regional Ecosystem and Survey Effort (Avon Downs Area C – Polygon 1-4)**



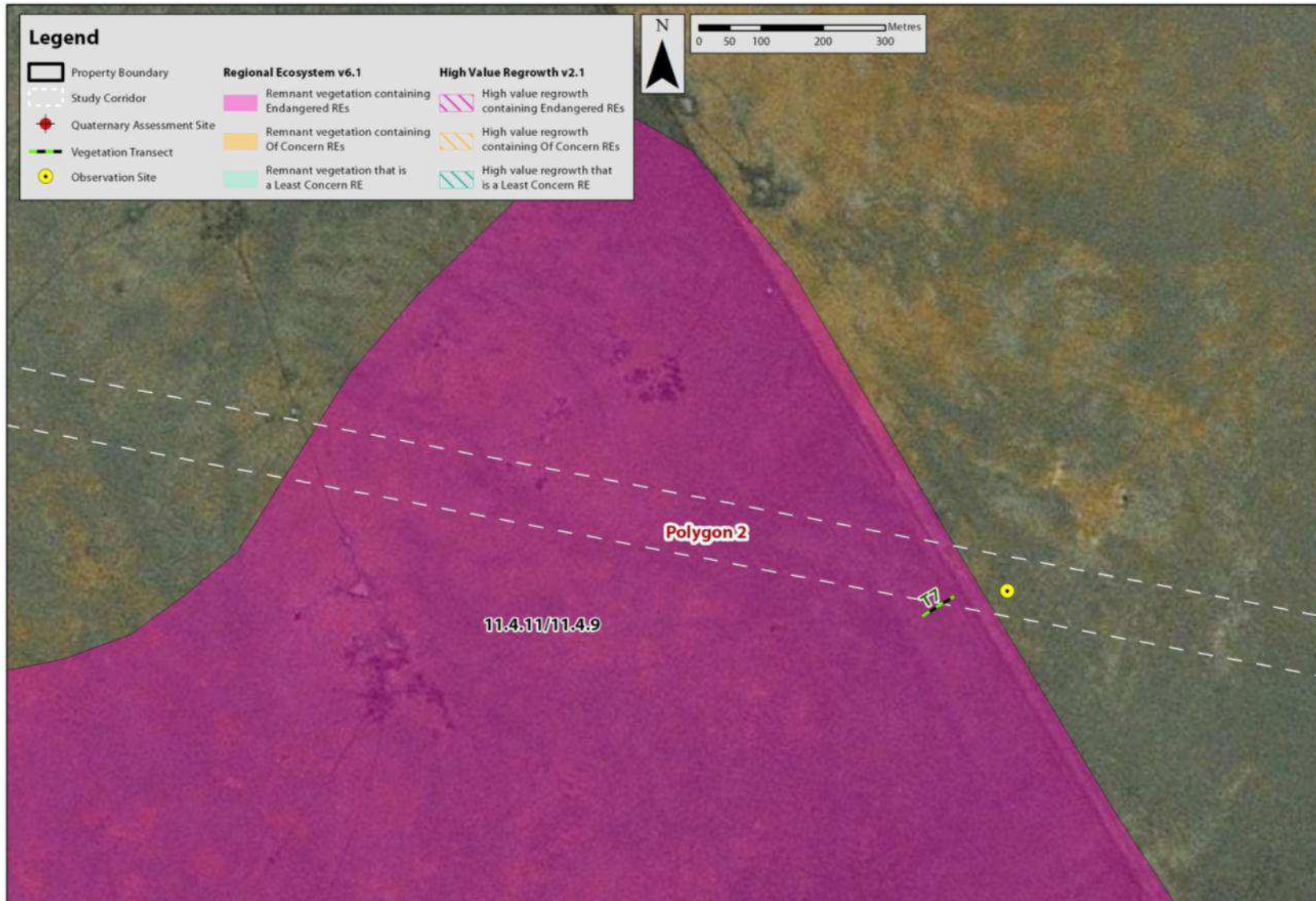


**Figure 41c: Regional Ecosystem and Survey Effort (Avon Downs Area C – Polygon 1-4)**





**Figure 41d: Regional Ecosystem and Survey Effort (Avon Downs Area C – Polygon 1-4)**



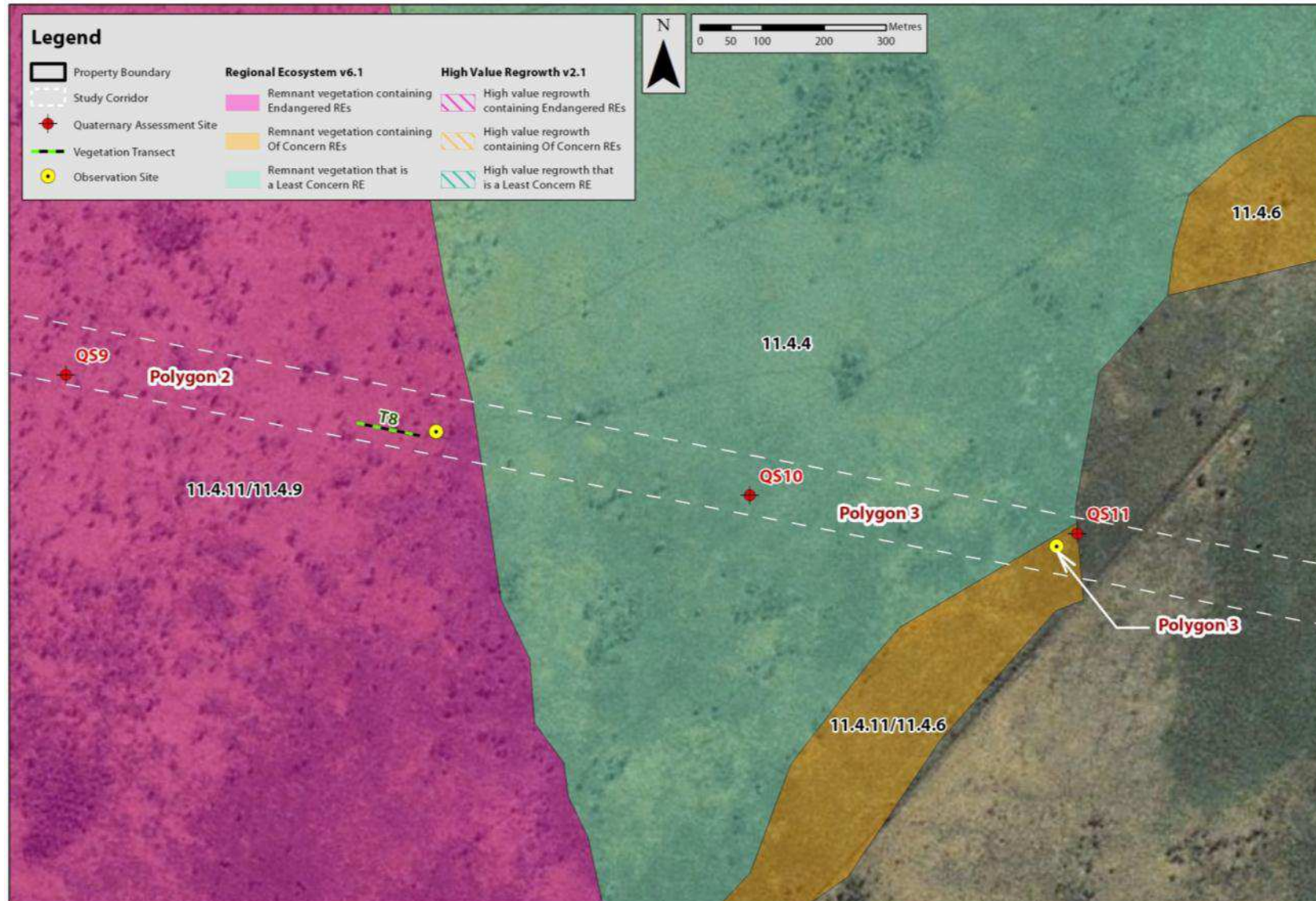


**Figure 41e: Regional Ecosystem and Survey Effort (Avon Downs Area C – Polygon 1-4)**



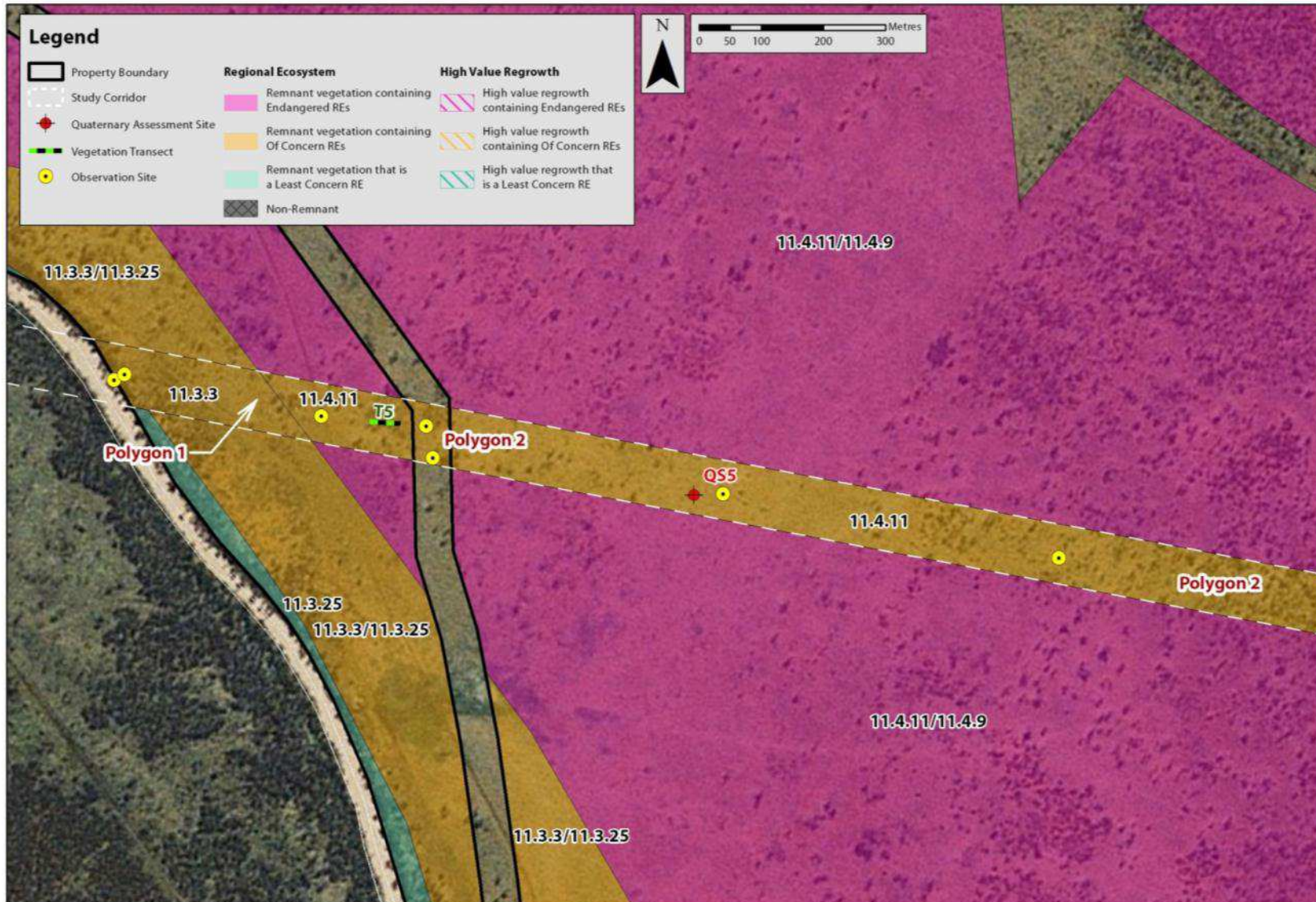


**Figure 41f: Regional Ecosystem and Survey Effort (Avon Downs Area C – Polygon 1-4)**



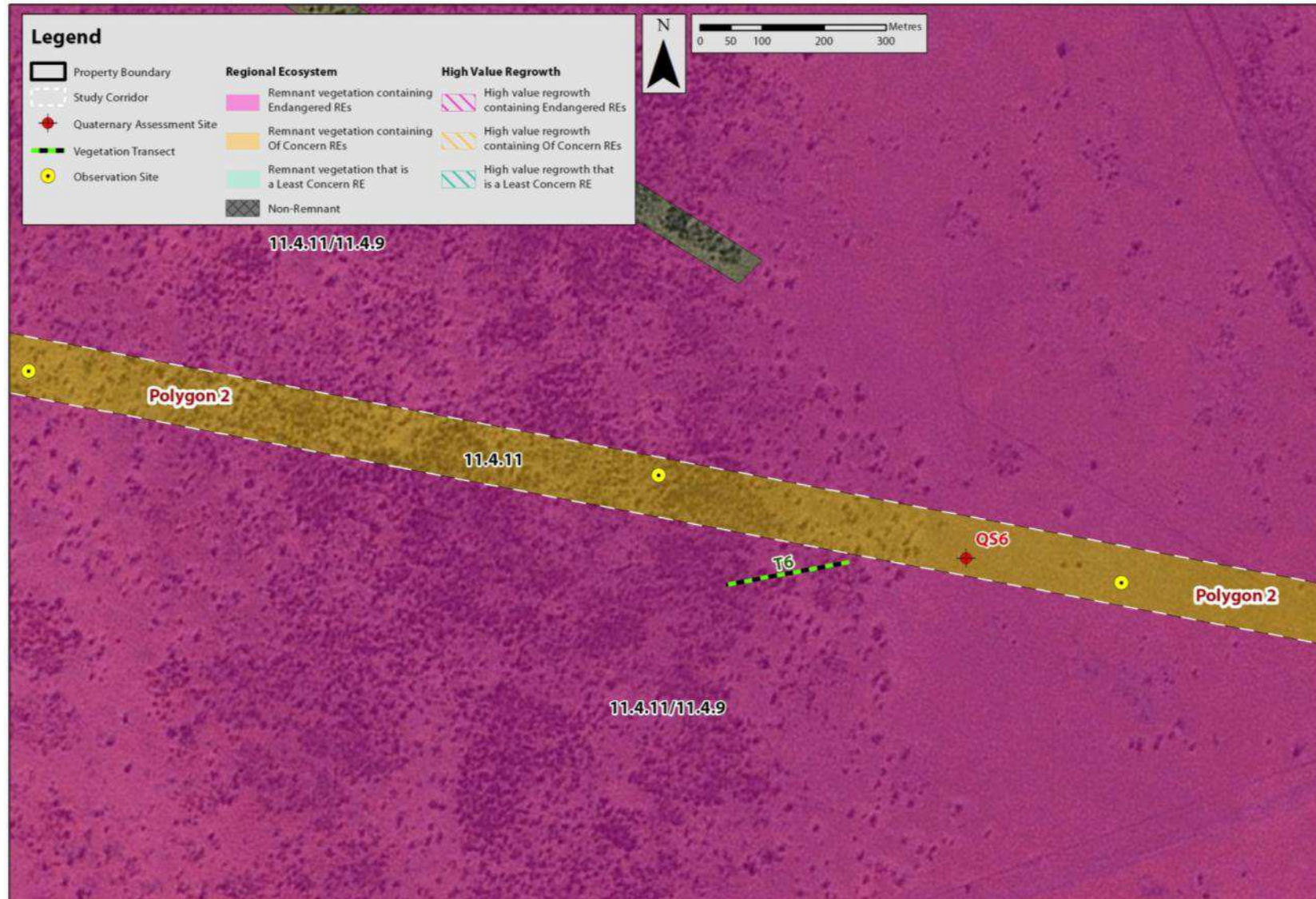


**Figure 42a: Regional Ecosystem Changes (Avon Downs Area C – Polygon 1-4)**



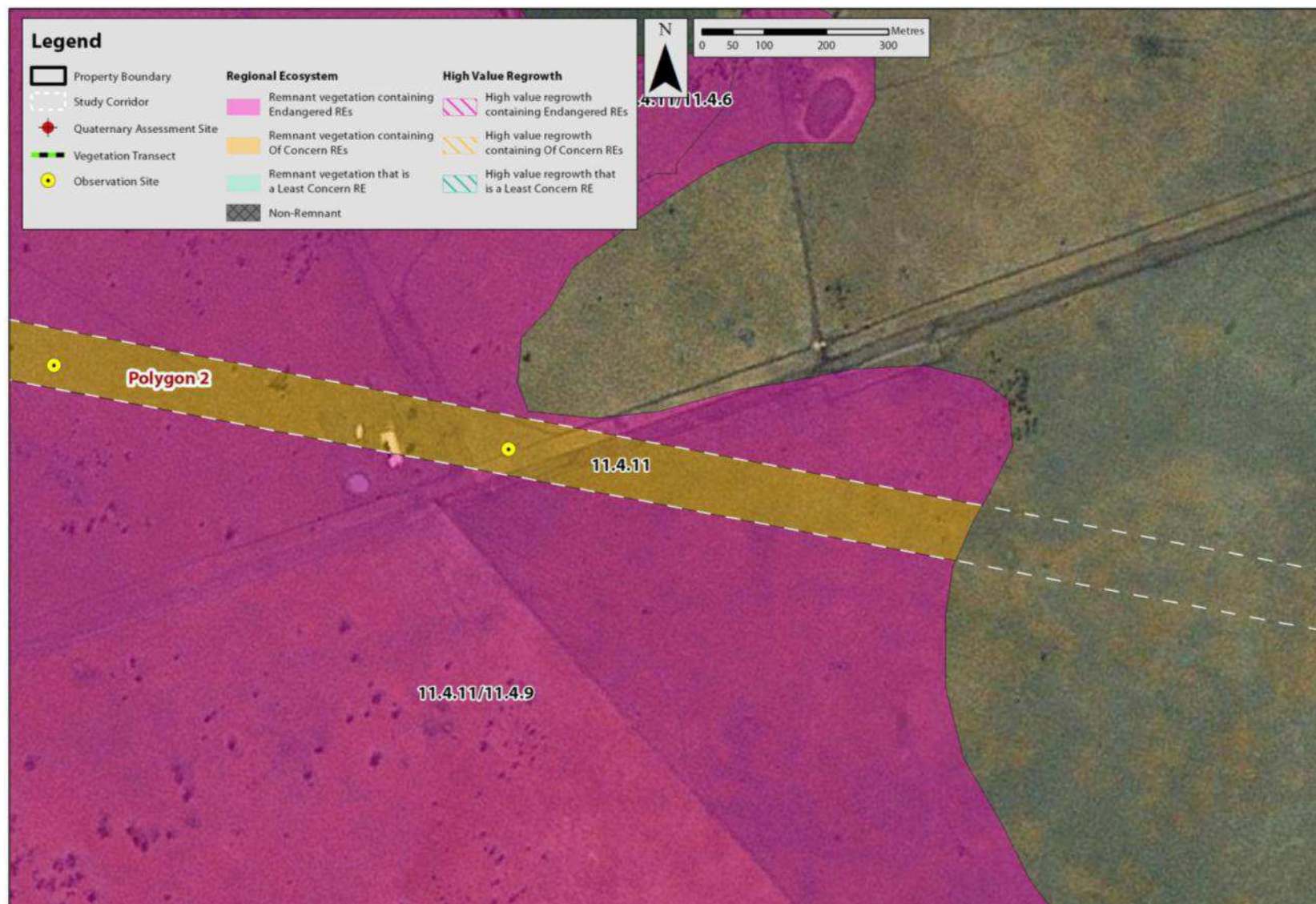


**Figure 42b: Regional Ecosystem Changes (Avon Downs Area C – Polygon 1-4)**



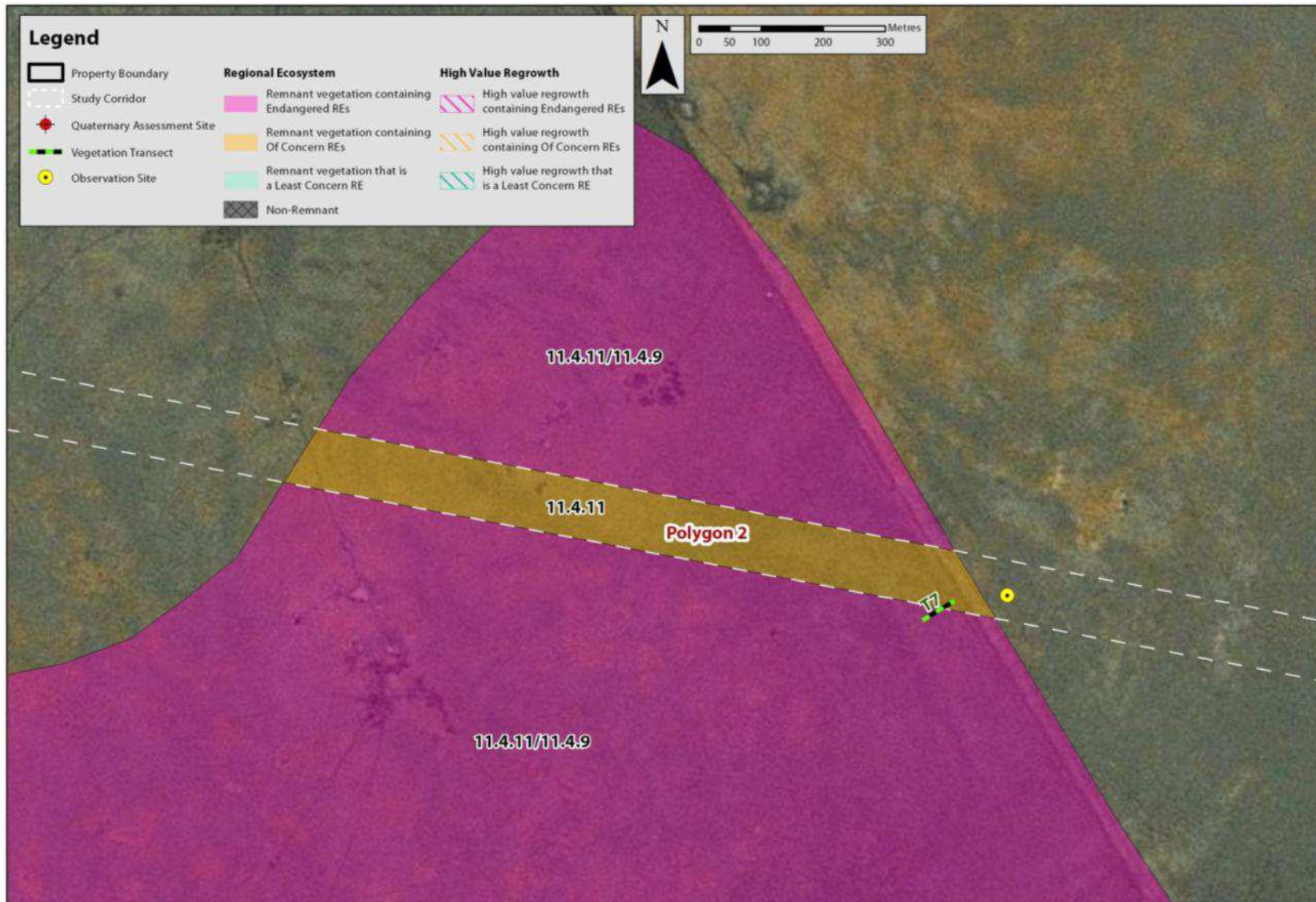


**Figure 42c: Regional Ecosystem Changes (Avon Downs Area C – Polygon 1-4)**





**Figure 42d: Regional Ecosystem Changes (Avon Downs Area C – Polygon 1-4)**



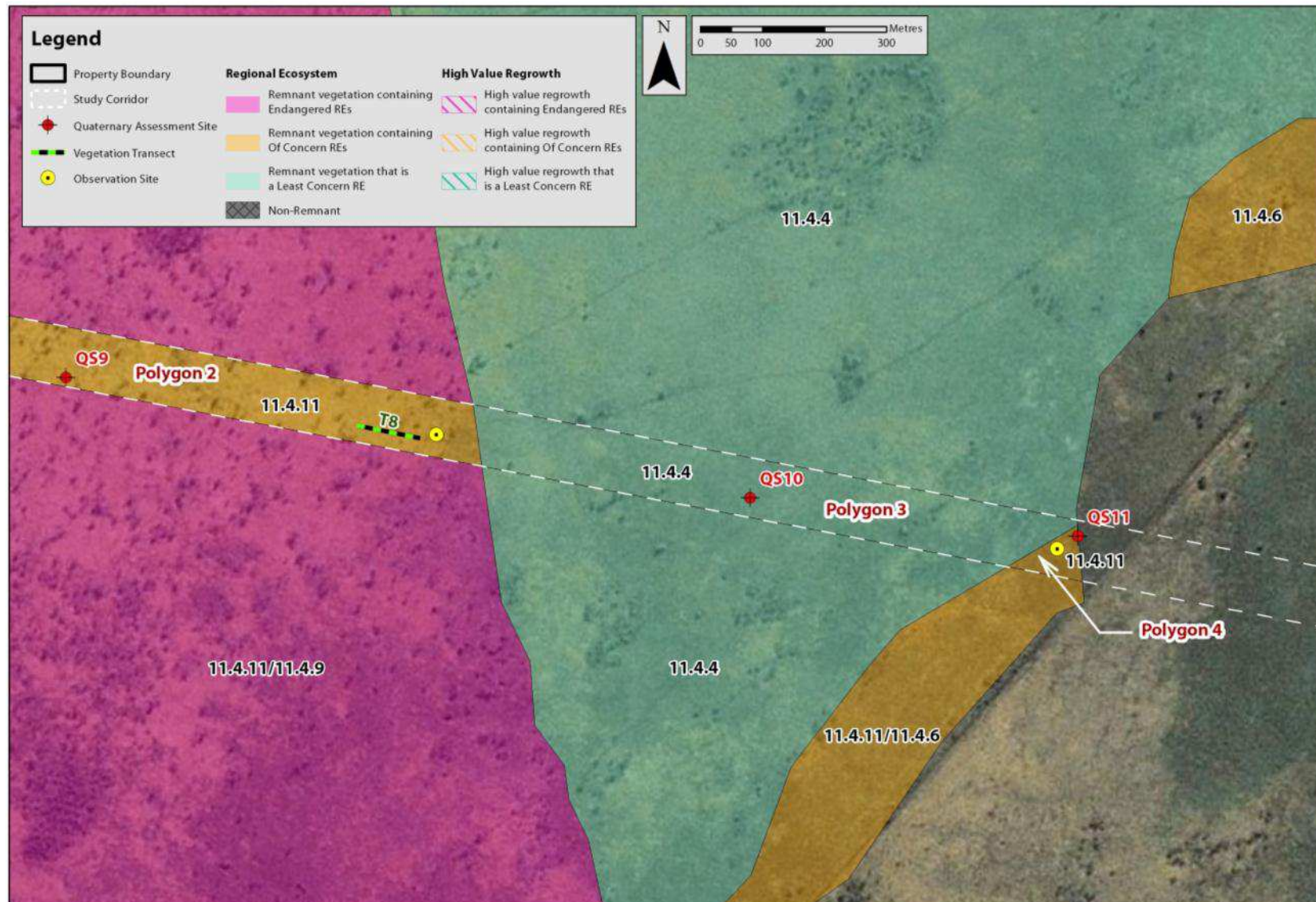


**Figure 42e: Regional Ecosystem Changes (Avon Downs Area C – Polygon 1-4)**





**Figure 42f: Regional Ecosystem Changes (Avon Downs Area C – Polygon 1-4)**





## II. Talki Station

The *Vegetation Management Act Regional Ecosystem and Remnant Map Version 6.1* has mapped four (4) regional ecosystem communities across two (2) Landzones within the application area on Talki Station property. These mapped RE areas are generally associated with tributaries of Logan Creek which includes a lineal area of Of Concern mapped vegetation. This Of Concern area is mapped as containing a number of composite RE types.

Field surveys confirmed the presence of this Of Concern community adjacent to Logan Creek. Data was used to define correct RE codes as slight variations in RE type were observed within the rail corridor

Based on the detailed field assessment, the application site within the Talki Station Property has been divided into five (5) assessment areas based on the location of the mapped remnant polygons and status of the regional ecosystem community.

**Table 50: Talki Station Summary**

| Site  | Current RE Mapping<br>Version 6.1 | Current RE Mapping<br>Version 6.1 (Area) | RE Observed          | RE Observed<br>(Area) |
|---|-----------------------------------|--|----------------------|-----------------------|
| <b>Talki Station Area A –<br/>Polygon 1</b> | Endangered RE<br>11.4.9/11.4.6    | < 1 ha                                   | Non remnant          | < 1 ha                |
| <b>Talki Station Area B –<br/>Polygon 1</b> | Of Concern RE 11.4.6              | 10.8 ha                                  | Of Concern RE 11.4.6 | 5.5 ha                |
| <b>Talki Station Area B –<br/>Polygon 1</b> | Of Concern RE 11.4.6              | <i>As above</i>                          | Of Concern RE 11.3.3 | 1.8 ha                |
| <b>Talki Station Area B –<br/>Polygon 1</b> | Of Concern RE 11.4.6              | <i>As above</i>                          | Of Concern RE 11.4.6 | 2.5 ha                |
| <b>Talki Station Area B –<br/>Polygon 2</b> | Of Concern RE<br>11.3.3/11.3.37   | 5.2 ha                                   | Of Concern RE 11.3.3 | 5.9 ha                |



## II.I. Talki Station Area A – Polygon I

**Table 51: Talki Station Area A – Polygon 1 Summary**

| Site Description                 |   |             |
|----------------------------------|---|-------------|
| Location:                        | Talki Station Lot 1 SP118814  |             |
| Site Description:                | <p>The site is located within an Endangered mapped vegetation community described as RE 11.4.9/11.4.6.</p> <p>The site is located within a mapped endangered vegetation community consisting of 50% Endangered RE 11.4.9 and 50% Of Concern RE 11.4.6. Refer to Figure 43.</p> <p>Area contains no vegetation or species representative of the mapped composite RE 11.4.9/11.4.6. Both <i>Acacia harpophylla</i> and <i>Acacia cambagei</i> were absent from the survey area.</p> <p>The area was dominated by introduced exotic grass <i>Pennisetum ciliare</i> (Buffel Grass). The area is highly disturbed and shows signs of being historically cleared and heavily grazed.</p> <p>Refer to Quaternary Site 1 within Appendix H and Figure 44 for the proposed changes.</p> |             |
| Datum:                           | GDA94 (MGA55)   |             |
| Eastings/Northings               | Eastings  | Northings   |
|                                  | 515657.50E  | 7582797.59N |
| Regional Ecosystem Profile       |   |             |
| Current RE Mapping (Version 6.1) | Endangered RE 11.4.9/11.4.6   |             |
| Regional Ecosystem Observed:     | Non remnant   |             |
| Width of RE:                     | Not linear (<10ha)  |             |

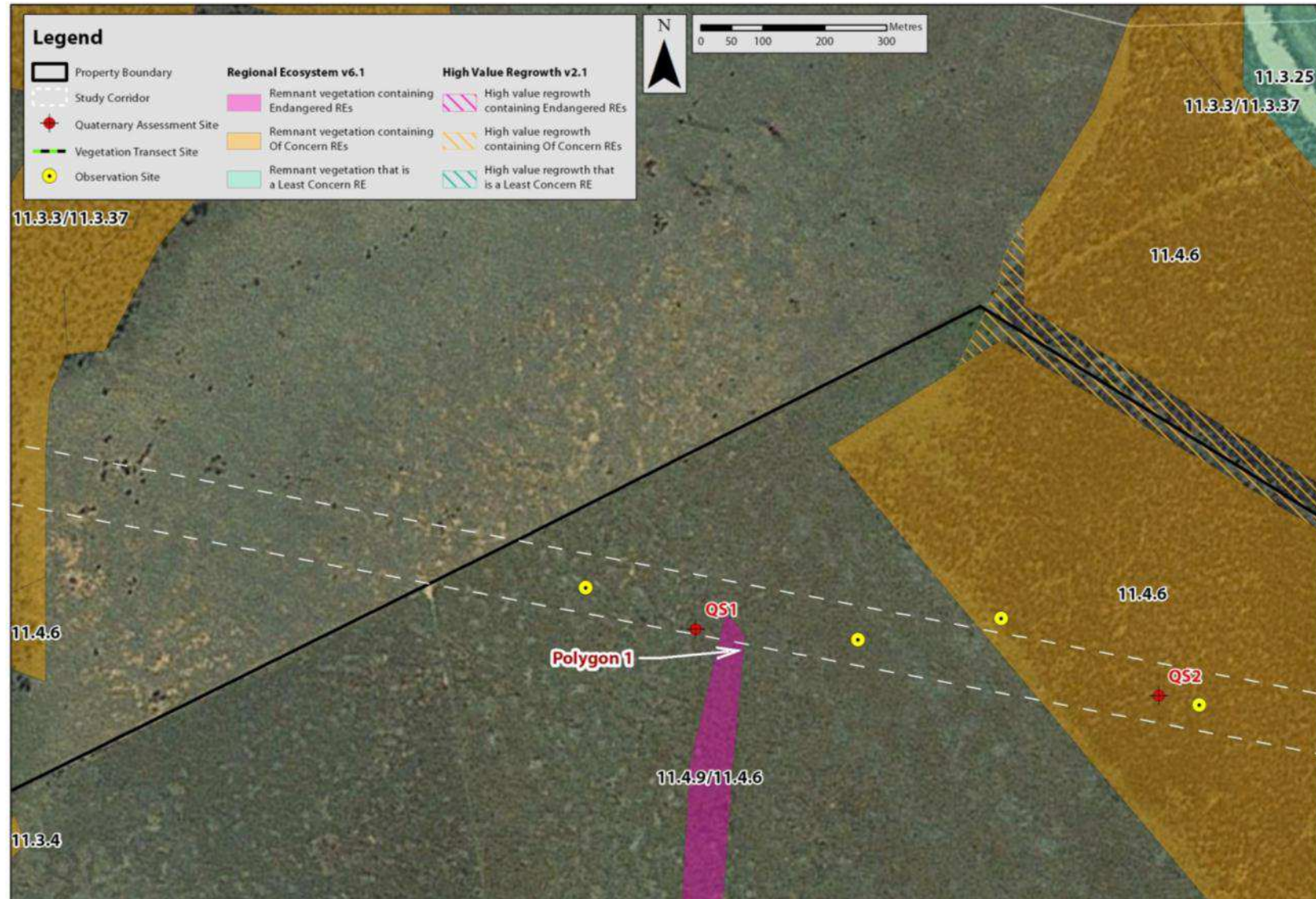


**Photo: Talki Station Area A – Polygon 1**

*Mapped remnant polygon of Endangered RE 11.4.9/11.4.6. Note no *Acacia harpophylla* or *Acacia cambagei*. Area dominated by *Pennisetum ciliare* within ground layer.*

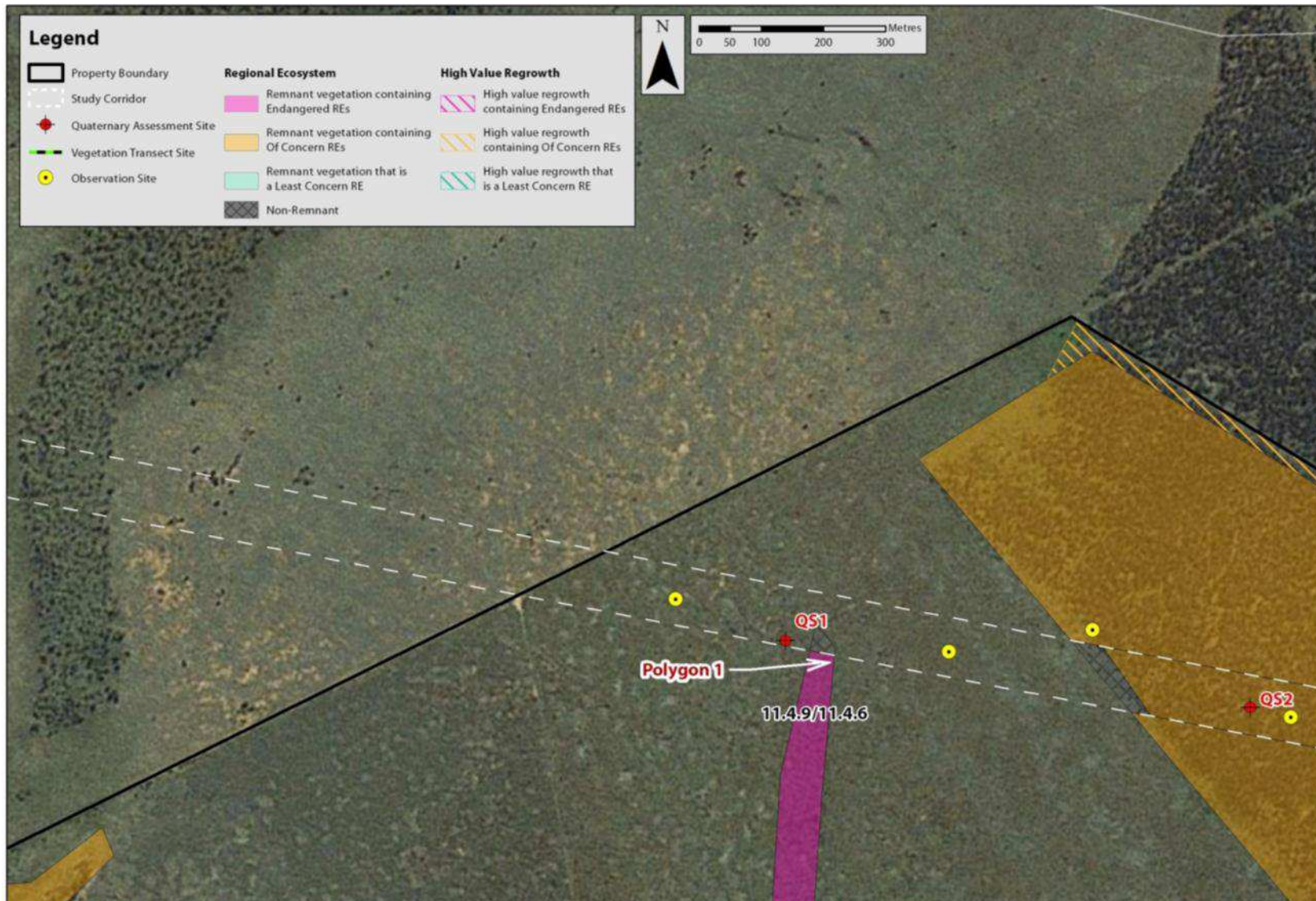


**Figure 43: Regional Ecosystem and Survey Effort (Talki Station Area A – Polygon 1)**





**Figure 44: Regional Ecosystem Changes (Talki Station Area A – Polygon 1)**





## II.2. Talki Station Area B Polygon I

**Table 52: Talki Station Area B – Polygon 1 Summary**

| Site Description                 |  |                |
|----------------------------------|--|----------------|
| Location:                        | Talki Station Lot 1 SP118814   |                |
| Site Description:                | <p>The site is located within a mapped Of Concern vegetation community consisting of RE 11.4.6. Refer to Figure 45.</p> <p>The areas soil and geological formation appears consistent with Landzone 4 described as Cainozoic clay deposits, usually forming level to gently undulating plains above current alluvial systems. These areas exclude clay plains and downs formed in-situ on bedrock. Mainly Vertosols with gilgai microrelief, but includes small areas of thin sandy or loamy surfaced Sodosols and Chromosols.</p> <p>Vegetation structure and species composition within this polygon is consistent with Of Concern RE 11.4.6. <i>Acacia cambagei</i> dominated T1 and T2 layer with sparse understorey and ground layer.</p> <p>The area was dominated by introduced exotic grass <i>Pennisetum ciliare</i> (Buffel Grass). The area shows signs of being historically cleared and heavily grazed.</p> <p>Refer to Quaternary Site 2 within Appendix H and Figure 46 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)  |                |
| Eastings/Northings               | Eastings   | Northings      |
|                                  | 526419.18 m E  | 7580718.62 m S |
| Regional Ecosystem Profile       |  |                |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.4.6   |                |
| Regional Ecosystem Observed:     | Of Concern RE 11.4.6   |                |
| Width of RE:                     | Not linear (<10ha)   |                |



**Photo: Talki Station Area B – Polygon 1**

Mapped remnant polygon of Of Concern RE 11.4.6. Note dominance of *Acacia cambagei* within T1 and T2 layers with *Pennisetum ciliare* within ground layer.



### II.3. Talki Station Area B – Polygon 2

**Table 53: Talki Station Area B – Polygon 2 Summary**

| Site Description                 |  |                |
|----------------------------------|--|----------------|
| Location:                        | Talki Station; Lot 1 SP118814  |                |
| Site Description:                | <p>The site is located within a mapped Of Concern vegetation community consisting of RE 11.4.6. Refer to Figure 45.</p> <p>Area contains no vegetation or species representative of the mapped composite RE 11.4.6. Vegetation structure and species composition were representative of RE 11.3.3.</p> <p>Acacia cambagei was absent from the quaternary assessment site. <i>Eucalyptus coolibah</i> within the T1 layer and shrub and ground species including <i>Eremophila mitchellii</i> and <i>Terminalia oblongata</i> were observed within the mapped area indicating RE 11.3.3 not RE 11.4.6</p> <p>The area was dominated by introduced exotic grass <i>Pennisetum ciliare</i> (Buffel Grass). The area shows signs of being historically cleared and heavily grazed.</p> <p>Refer to Quaternary Site 3 within Appendix H and Figure 46 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)  |                |
| Eastings/Northings               | Eastings   | Northings      |
|                                  | 526830.10 m E  | 7580708.74 m S |
| Regional Ecosystem Profile       |  |                |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.4.6   |                |
| Regional Ecosystem Observed:     | Of Concern RE 11.3.3   |                |
| Width of RE:                     | Not linear (<10ha)   |                |



**Photo: Talki Station Area B – Polygon 2**

*Mapped remnant polygon of Of Concern RE 11.3.3. Note the absence of *Acacia cambagei* and the presence of *E. coolabahi* within T1 layer with *Pennisetum ciliare* within ground layer.*



## II.4. Talki Station Area B – Polygon 3

**Table 54: Talki Station Area B – Polygon 3 Summary**

| Site Description                 |  |                |
|----------------------------------|--|----------------|
| Location:                        | Talki Station; Lot 1 SP118814  |                |
| Site Description:                | <p>The site is located within a mapped Of Concern vegetation community consisting of RE 11.4.6 . Refer to Figure 45.</p> <p>The areas soil and geological formation appears consistent with Landzone 4 described as Cainozoic clay deposits, usually forming level to gently undulating plains above current alluvial systems. These areas exclude clay plains and downs formed in-situ on bedrock. Mainly Vertosols with gilgai microrelief, but includes small areas of thin sandy or loamy surfaced Sodosols and Chromosols.</p> <p>Vegetation structure and species composition within this polygon is consistent with Of Concern RE 11.4.6. <i>Acacia cambagei</i> dominated T1 and T2 layer with sparse understorey and ground layer.</p> <p>The area was dominated by introduced exotic grass <i>Pennisetum ciliare</i> (Buffel Grass). The area shows signs of being historically cleared and heavily grazed.</p> <p>Refer to Transect 1 within Appendix H and Figure 46 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)  |                |
| Eastings/Northings               | Eastings   | Northings      |
|                                  | 527052.64 m E  | 7580640.52 m S |
| Regional Ecosystem Profile       |  |                |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.4.6   |                |
| Regional Ecosystem Observed:     | Of Concern RE 11.4.6   |                |
| Width of RE:                     | Not linear (<10ha)   |                |



**Photo: Talki Station Area B – Polygon 3**

Mapped remnant polygon of Of Concern RE 11.4.6. Note dominance of *Acacia cambagei* within T1 and T2 layers with *Pennisetum ciliare* within ground layer.



## II.5. Talki Station Area B – Polygon 4

**Table 55: Talki Station Area B – Polygon 4 Summary**

| Site Description                 |   |                |
|----------------------------------|---|----------------|
| Location:                        | Talki Station; Lot 1 SP118814   |                |
| Site Description:                | <p>The site is located within an Of Concern mapped vegetation community described as RE 11.3.3/11.3.37 consisting of 90% Of Concern RE 11.3.3 and 10% Least Concern RE 11.3.37. Refer to Figure 45.</p> <p>Area contains vegetation structure and species composition representative of mapped composite RE 11.3.3. <i>Eucalyptus coolabah</i> woodland with a grassy understorey was observed. Numerous <i>Acacia cambagei</i> were also present in the surveyed area. The area surveyed was more consistent with vegetation on alluvial plain than fringing watercourse vegetation.</p> <p>The area was dominated by introduced exotic grass <i>Pennisetum ciliare</i> (Buffel Grass). The area shows signs of being historically cleared and heavily grazed.</p> <p>Refer to Quaternary Site 4 within Appendix H and Figure 46 for the proposed changes.</p> |                |
| Datum:                           | GDA94 (MGA55)   |                |
| Eastings/Northings               | Eastings  | Northings      |
|                                  | 527708.07 m E   | 7580467.39 m S |
| Regional Ecosystem Profile       |   |                |
| Current RE Mapping (Version 6.1) | Of Concern RE 11.3.3/11.3.37  |                |
| Regional Ecosystem Observed:     | Of Concern RE 11.3.3  |                |
| Width of RE:                     | Not linear (>10ha)  |                |

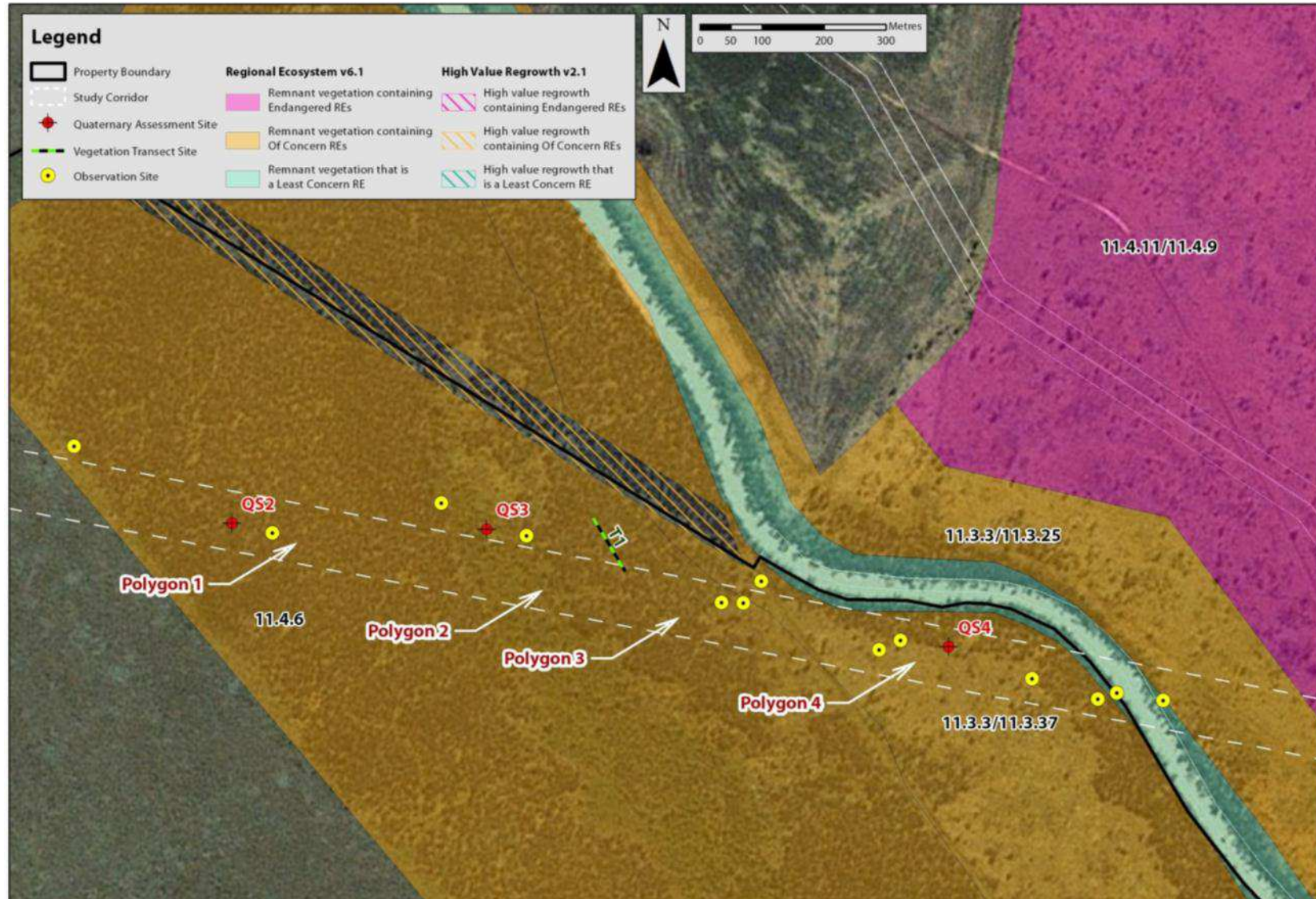


**Photo: Talki Station Area B – Polygon 4**

*Mapped remnant polygon of Of Concern RE 11.3.3. Pennisetum ciliare dominant within ground layer.*

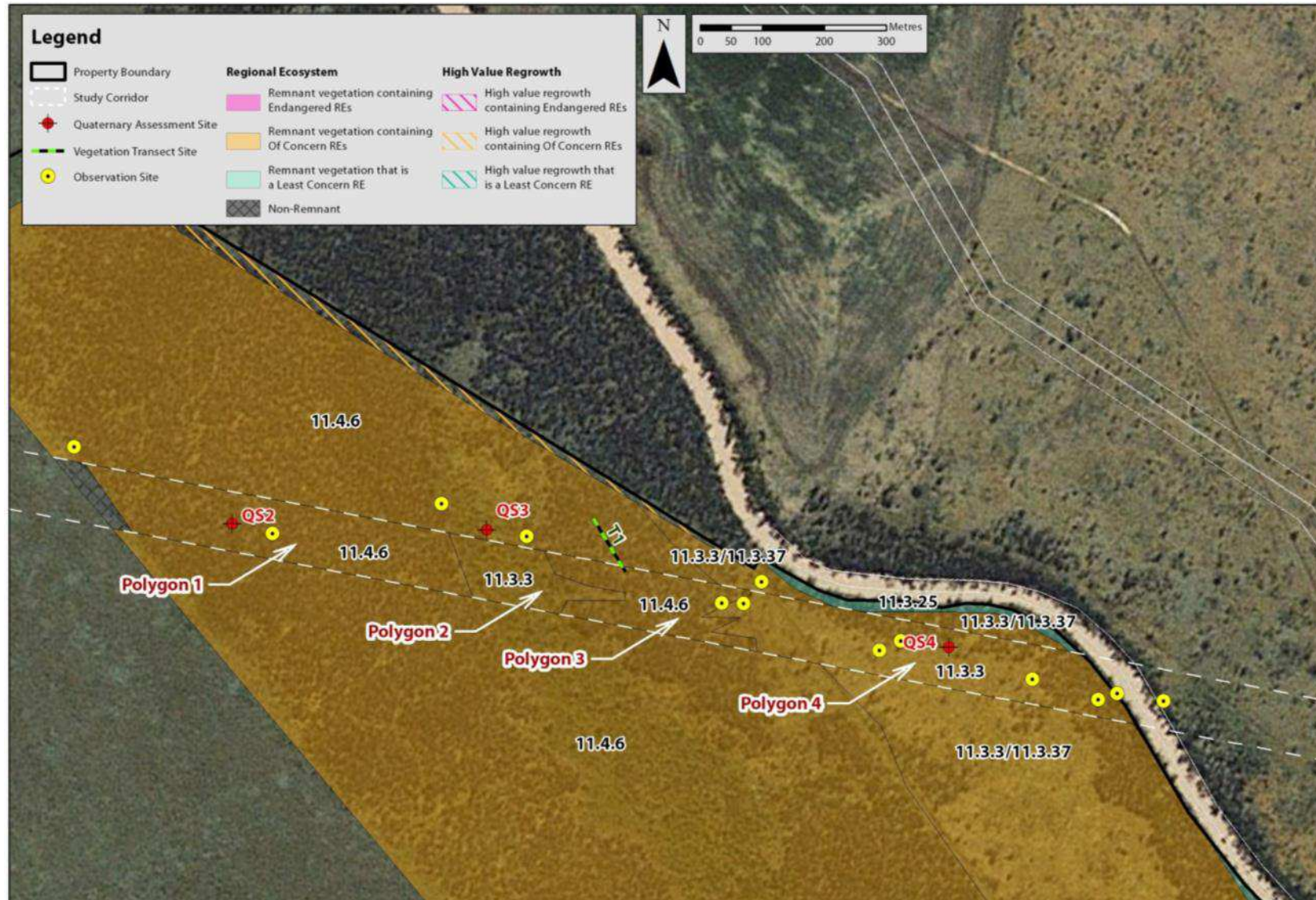


**Figure 45: Regional Ecosystem and Survey Effort (Talki Station Area B – Polygon 1-4)**





**Figure 46: Regional Ecosystem Changes (Talki Station Area B – Polygon 1-4)**





## 12. Appendices

### **Appendix A**

Moray Downs Vegetation Transects

### **Appendix B**

Cassiopeia Transects

### **Appendix C**

Elgin Downs Stud Vegetation Transects

### **Appendix D**

Lot 1 on SP147546

### **Appendix E**

Old Twin Hill Holding Vegetation Transects

### **Appendix F**

Disney Holding Vegetation Transects

### **Appendix G**

Avon Vegetation Transects

### **Appendix H**

Talki Station Vegetation Transects



# Appendix A

Moray Downs Vegetation Transects



## Moray Downs - Vegetation Transect I

|                  |                                    |                  |                              |                  |           |
|------------------|------------------------------------|------------------|------------------------------|------------------|-----------|
| <b>Site No.</b>  | 1                                  | <b>Recorder:</b> | David Havill & Lincoln Smith | <b>Day/Date:</b> | 23/5/2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                              |                  |           |
| <b>Locality:</b> | Moray Downs                        |                  |                              |                  |           |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   |               |                 | ABSENT                       |
| T2   |               |                 | ABSENT                       |
| T3   |               |                 |                              |
| S1   | 1.5m          | 1-2m            | VS                           |
| S2   |               |                 |                              |
| G  | 0.5m          | 0-1m            | D                            |
| Structural formation including height: (estimated) |               |                 |                              |
| Grassland  |               |                 |                              |
| Ecologically dominant layer:                       |               | G               |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|   |           |      |        |    |            |        |    |    |                  |            |    |      |    |    |   |
|---|-----------|------|--------|----|------------|--------|----|----|------------------|------------|----|------|----|----|---|
| GPS coordinates:  |           |      | Datum: |    |            | MGA 55 |    |    | Transect length: |            |    | 100m |    |    |   |
|   |           |      |        |    |            |        |    |    |                  |            |    |      |    |    |   |
| Start point   | Zone      | 5    | 5      | E  | 146.519188 |        |    |    | N                | -21.926820 |    |      |    |    |   |
|   |           |      |        |    |            |        |    |    |                  |            |    |      |    |    |   |
| End point   | Zone      | 5    | 5      | E  | 146.519523 |        |    |    | N                | -21.925965 |    |      |    |    |   |
|   |           |      |        |    |            |        |    |    |                  |            |    |      |    |    |   |
| COVER %   |           |      |        |    |            |        |    |    |                  |            |    |      |    |    |   |
| Assessment Area. 100m (m) Start 7575196.01N; 450345.60E Finish 7575291.132; 450377.933E Near TP39 |           |      |        |    |            |        |    |    |                  |            |    |      |    |    |   |
| Species   | Cr. Den % | Misc | ID     | E1 | T1         | T2     | T3 | S1 | S2               | G1         | G2 | G3   | G4 | G5 | G |
| <i>Pennisetum ciliaris</i>  |           |      |        |    |            |        |    |    |                  | 91.3       |    |      |    |    |   |
| <i>Aristida latifolia</i>   |           |      |        |    |            |        |    |    |                  | 3.5        |    |      |    |    |   |
| <i>Acacia decora</i>  |           |      |        |    |            |        |    |    |                  | 0.2        |    |      |    |    |   |



|                                 |  |  |  |  |  |  |  |  |     |     |  |  |  |  |  |  |
|---------------------------------|--|--|--|--|--|--|--|--|-----|-----|--|--|--|--|--|--|
| <i>Parthenium hysterophorus</i> |  |  |  |  |  |  |  |  |     | 0.6 |  |  |  |  |  |  |
| <i>Owenia acidula</i>           |  |  |  |  |  |  |  |  | 9.2 | -   |  |  |  |  |  |  |
| <i>Panicum decompositum</i>     |  |  |  |  |  |  |  |  |     | 1.3 |  |  |  |  |  |  |
| Dead                            |  |  |  |  |  |  |  |  |     | -   |  |  |  |  |  |  |
| Litter                          |  |  |  |  |  |  |  |  |     | -   |  |  |  |  |  |  |
| Rock                            |  |  |  |  |  |  |  |  |     | -   |  |  |  |  |  |  |
| Bare Ground                     |  |  |  |  |  |  |  |  |     | 3.1 |  |  |  |  |  |  |
| Cryptophytes                    |  |  |  |  |  |  |  |  |     | -   |  |  |  |  |  |  |

**Summary:**

Structural formation

Grassland

**Conclusions/notes:**

- Only two (2) native grass species observed within transect
- Area dominated by *Pennisetum ciliare* (Buffel Grass)
- Heavily grazed
- No fauna observed
- No hollow logs/fallen timber observed

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**

| Str. | Rel. dom. | Scientific Name                 | Common Name            |
|------|-----------|---------------------------------|------------------------|
| T1   |           | ABSENT                          |                        |
| T2   |           | ABSENT                          |                        |
| S    | A         | <i>Geijera parviflora</i>       | Wilga                  |
|      | A         | <i>Acacia decora</i>            | Pretty Wattle          |
|      |           |                                 |                        |
| G    | D         | <i>Pennisetum ciliare</i>       | Buffel Grass           |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium             |
|      | CD        | <i>Panicum decompositum</i>     |                        |
|      | CD        | <i>Aristida latifolia</i>       | Feathertop Wiregrass   |
|      | A         | <i>Corchorus trilocularis</i>   |                        |
|      | A         | <i>Hibiscus trionum</i>         | Flower-Of-An-Hour      |
|      | A         | <i>Rhynchosia minima</i>        | Native Sensitive Plant |



|  |   |                          |  |
|--|---|--------------------------|--|
|  | A | <i>Glycine latifolia</i> |  |
|--|---|--------------------------|--|



## Moray Downs - Vegetation Transect 2

|           |                                    |           |                              |           |           |
|-----------|------------------------------------|-----------|------------------------------|-----------|-----------|
| Site No.  | 2                                  | Recorder: | David Havill & Lincoln Smith | Day/Date: | 23/5/2012 |
| Purpose   | Regional Ecosystem & Remnant Check |           |                              |           |           |
| Locality: | Moray Downs                        |           |                              |           |           |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   |               |                 |                              |
| T2   | 5m            | 3-8m            | S                            |
| T3   |               |                 |                              |
| S1   | 1.3m          | 1-2m            | VS                           |
| S2   |               |                 |                              |
| G  | 0.5m          | 0-1m            | M                            |
| Structural formation including height: (estimated)   |               |                 |                              |
| Grassland with patches of shrubby Acacia harpophylla |               |                 |                              |
| Ecologically dominant layer:                         |               | G               |                              |

### Transect – Crown Cover Measured (Transect intercept method)

| GPS coordinates:   |           |      | Datum: |    |            | MGA 55 |    | Transect length: |    | 100m       |    |    |    |    |   |
|--|-----------|------|--------|----|------------|--------|----|------------------|----|------------|----|----|----|----|---|
| Start point  | Zone      | 5    | 5      | E  | 146.532038 |        |    |                  | N  | -21.917347 |    |    |    |    |   |
| End point  | Zone      | 5    | 6      | E  | 146.532138 |        |    |                  | N  | -21.916393 |    |    |    |    |   |
| COVER %  |           |      |        |    |            |        |    |                  |    |            |    |    |    |    |   |
| Assessment Area. 100m (m) Start 7576247.832N; 451667.112E Finish 7576353.308N; 451678.038E (Near TP37) |           |      |        |    |            |        |    |                  |    |            |    |    |    |    |   |
| Species  | Cr. Den % | Misc | ID     | E1 | T1         | T2     | T3 | S1               | S2 | G1         | G2 | G3 | G4 | G5 | G |
| <i>Pennisetum ciliare</i>  |           |      |        |    |            |        |    |                  |    | 10.3       |    |    |    |    |   |
| <i>Parthenium hysterophorus</i>  |           |      |        |    |            |        |    |                  |    | 2.5        |    |    |    |    |   |
| <i>Panicum decompositum</i>  |           |      |        |    |            |        |    |                  |    | 39.2       |    |    |    |    |   |



|                            |  |  |  |  |  |  |  |     |  |      |  |  |  |  |  |  |
|----------------------------|--|--|--|--|--|--|--|-----|--|------|--|--|--|--|--|--|
| <i>Dicanthium sericeum</i> |  |  |  |  |  |  |  |     |  | 6.2  |  |  |  |  |  |  |
| <i>Forbs</i>               |  |  |  |  |  |  |  |     |  | 24.6 |  |  |  |  |  |  |
| <i>Chloris truncata</i>    |  |  |  |  |  |  |  |     |  | 6.7  |  |  |  |  |  |  |
| <i>Acacia harpophylla</i>  |  |  |  |  |  |  |  | 7.1 |  |      |  |  |  |  |  |  |
| <i>Geijera parviflora</i>  |  |  |  |  |  |  |  | 9   |  |      |  |  |  |  |  |  |
| <i>Litter</i>              |  |  |  |  |  |  |  |     |  | -    |  |  |  |  |  |  |
| <i>Rock</i>                |  |  |  |  |  |  |  |     |  | -    |  |  |  |  |  |  |
| <i>Bare Ground</i>         |  |  |  |  |  |  |  |     |  | 10.5 |  |  |  |  |  |  |
| <i>Cryptophytes</i>        |  |  |  |  |  |  |  |     |  | -    |  |  |  |  |  |  |

|   |  |
|---|--|
| <b>Structural formation</b>   | Grassland with patches of small <i>Acacia harpophylla</i> with forb ground layer |
| <b>Conclusions/notes:</b>   |  |
| <ul style="list-style-type: none"> <li>Grass, forb and shrub species consistent with RE 11.4.11</li> </ul>  |  |
| <ul style="list-style-type: none"> <li>Small patches of mature <i>Acacia harpophylla</i> consistent with RE 11.4.9 observed external to transect</li> </ul> |  |
| <ul style="list-style-type: none"> <li>Height and structure of vegetation agrees with RE description for RE 11.4.11</li> </ul>                              |  |
| <ul style="list-style-type: none"> <li>Heavily grazed</li> </ul>  |  |
| <ul style="list-style-type: none"> <li><i>Parthenium hysterophorus</i> and <i>Pennisetum ciliare</i> observed within area.</li> </ul>                       |  |

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**

| Str. | Rel. dom. | Scientific Name                 | Common Name            |
|------|-----------|---------------------------------|------------------------|
| T1   |           | ABSENT                          |                        |
| T2   | A         | <i>Owenia acidula</i>           | Emu Apple              |
|      | A         | <i>Acacia harpophylla</i>       | Brigalow               |
|      | A         | <i>Lysiphyllum hookeri</i>      | Bauhinia               |
| S    | A         | <i>Owenia acidula</i>           | Emu Apple              |
|      | A         | <i>Acacia farnesiana</i>        | Mimosa Bush            |
| G    | D         | <i>Pennisetum ciliare</i>       | Buffel Grass           |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium             |
|      | CD        | <i>Panicum decompositum</i>     | Native Millet          |
|      | A         | <i>Rhynchosia minima</i>        | Native Sensitive Plant |



|  |    |                               |                      |
|--|----|-------------------------------|----------------------|
|  | A  | <i>Glycine latifolia</i>      |                      |
|  | A  | <i>Corchorus trilocularis</i> |                      |
|  | A  | <i>Hibiscus trionum</i>       | Flower-Of-An-Hour    |
|  | CD | <i>Aristida latifloia</i>     | Feathertop Wiregrass |



## Moray Downs - Vegetation Transect 3

|           |                                    |           |                              |           |          |
|-----------|------------------------------------|-----------|------------------------------|-----------|----------|
| Site No.  | 3                                  | Recorder: | Andrew Craig & Lincoln Smith | Day/Date: | 7/6/2012 |
| Purpose   | Regional Ecosystem & Remnant Check |           |                              |           |          |
| Locality: | Moray Downs                        |           |                              |           |          |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   |               |                 | ABSENT                       |
| T2   |               |                 | ABSENT                       |
| T3   |               |                 |                              |
| S1   | 1.5m          | 1-2m            | VS                           |
| S2   |               |                 |                              |
| G  | 0.5m          | 0-1m            | D                            |
| Structural formation including height: (estimated) |               |                 |                              |
| Grassland  |               |                 |                              |
| Ecologically dominant layer:                       |               | G               |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                  |      |        |        |                  |           |              |
|------------------|------|--------|--------|------------------|-----------|--------------|
| GPS coordinates: |      | Datum: | MGA 55 | Transect length: | 100m      |              |
| Start point      | Zone | 5      | 5      | E                | 450503.12 | N 7575296.51 |
| End point        | Zone | 5      | 5      | E                | 450553.89 | N 7575382.86 |

### COVER %

Assessment Area. 100(m). Start 7575296.51N; 450503.12E Finish 7575382.86N; 450553.89E (Near TP37)

| Species                      | Cr. Den % | Misc | ID | E1 | T1 | T2 | T3 | S1 | S2 | G1   | G2 | G3 | G4 | G5 | G |
|------------------------------|-----------|------|----|----|----|----|----|----|----|------|----|----|----|----|---|
| <i>Pennisetum ciliaris</i>   |           |      |    |    |    |    |    |    |    | 17.9 |    |    |    |    |   |
| <i>Panicum decomposition</i> |           |      |    |    |    |    |    |    |    | 23   |    |    |    |    |   |
| <i>Dicanthium sericeum</i>   |           |      |    |    |    |    |    |    |    | 3.8  |    |    |    |    |   |



|                    |  |  |  |  |  |  |  |  |    |  |      |  |  |  |  |  |  |
|--------------------|--|--|--|--|--|--|--|--|----|--|------|--|--|--|--|--|--|
| Forbs              |  |  |  |  |  |  |  |  |    |  | 35.3 |  |  |  |  |  |  |
| Acacia harpophylla |  |  |  |  |  |  |  |  | 20 |  |      |  |  |  |  |  |  |
| Litter             |  |  |  |  |  |  |  |  |    |  |      |  |  |  |  |  |  |
| Rock               |  |  |  |  |  |  |  |  |    |  |      |  |  |  |  |  |  |
| Bare Ground        |  |  |  |  |  |  |  |  |    |  | 20   |  |  |  |  |  |  |

| Summary:   |   |
|--|---|
| Structural formation   | Grassland with patches of shrubby <i>Acacia harpophylla</i> . |
| Conclusions/notes:   |   |
| <ul style="list-style-type: none"> <li>Only two (2) native grass species observed within transect</li> <li>Area dominated by <i>Pennisetum ciliare</i> (Buffel Grass)</li> <li>Heavily grazed</li> <li>No fauna observed</li> <li>No hollow logs/fallen timber observed</li> </ul> |   |

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**

| Str. | Rel. dom. | Scientific Name                 | Common Name            |
|------|-----------|---------------------------------|------------------------|
| T1   |           | ABSENT                          |                        |
| T2   |           | ABSENT                          |                        |
| S    | A         | <i>Geijera parviflora</i>       | Wilga                  |
|      | A         | <i>Acacia decora</i>            | Pretty Wattle          |
|      | A         | <i>Acacia harpophylla</i>       | Brigalow               |
| G    | D         | <i>Pennisetum ciliare</i>       | Buffel Grass           |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium             |
|      | A         | <i>Panicum decompositum</i>     | Native Millet          |
|      | O         | <i>Aristida latifolia</i>       | Feathertop Wiregrass   |
|      | A         | <i>Dichanthium sericeum</i>     | Bluegrass              |
|      | O         | <i>Rhynchosia minima</i>        | Native Sensitive Plant |
|      | O         | <i>Glycine latifolia</i>        |                        |
|      | A         | <i>Hibiscus trionum</i>         |                        |



## Moray Downs - Vegetation Transect 4

|                  |                                    |                  |                              |                  |           |
|------------------|------------------------------------|------------------|------------------------------|------------------|-----------|
| <b>Site No.</b>  | 4                                  | <b>Recorder:</b> | David Havill & Lincoln Smith | <b>Day/Date:</b> | 22/5/2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                              |                  |           |
| <b>Locality:</b> | Moray Downs                        |                  |                              |                  |           |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   |               |                 | ABSENT                       |
| T2   |               |                 | ABSENT                       |
| T3   |               |                 |                              |
| S1   | 2m            | 1-3m            | S                            |
| S2   |               |                 |                              |
| G  | 0.5m          | 0-1m            | D                            |
| Structural formation including height: (estimated) |               |                 |                              |
| Grassland  |               |                 |                              |
| Ecologically dominant layer:                       |               | G               |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                         |      |               |   |   |            |                         |            |  |
|-------------------------|------|---------------|---|---|------------|-------------------------|------------|--|
| <b>GPS coordinates:</b> |      | <b>Datum:</b> |   |   | MGA 55     | <b>Transect length:</b> | 100m       |  |
| Start point             | Zone | 5             | 5 | E | 146.550131 | N                       | -21.914944 |  |
| End point               | Zone | 5             | 5 | E | 146.551087 | N                       | -21.914893 |  |

| Interval (metres) | Intercept | Str. |  | Species                         | Common Name  |
|-------------------|-----------|------|--|---------------------------------|--------------|
| 0-1.2             | 1.2       | G    |  | <i>Pennisetum ciliare</i>       | Buffel Grass |
| 1.2-1.6           | 0.4       | G    |  | <i>Bare Ground</i>              |              |
| 1.6-4.2           | 2.6       | G    |  | <i>Pennisetum ciliare</i>       | Buffel Grass |
| 4.2-4.7           | 0.5       | G    |  | <i>Bare Ground</i>              |              |
| 4.7-6.1           | 1.4       | G    |  | <i>Pennisetum ciliare</i>       | Buffel Grass |
| 6.1-7.0           | 0.9       | G    |  | <i>Bare Ground</i>              |              |
| 7-11.8            | 4.8       | G    |  | <i>Pennisetum ciliare</i>       | Buffel Grass |
| 11.8-12.5         | 0.7       | G    |  | <i>Bare Ground</i>              |              |
| 12.5-19.4         | 6.9       | G    |  | <i>Pennisetum ciliare</i>       | Buffel Grass |
| 19.4-19.6         | 0.2       | G    |  | <i>Parthenium hysterophorus</i> | Parthenium   |



|           |      |   |  |                                 |                     |
|-----------|------|---|--|---------------------------------|---------------------|
| 19.6-20.8 | 1.2  | G |  | <i>Pennisetum ciliare</i>       | Buffel Grass        |
| 20.8-21.7 | 0.9  | G |  | <i>Bare Ground</i>              |                     |
| 21.7-24.3 | 2.6  | G |  | <i>Pennisetum ciliare</i>       | Buffel Grass        |
| 24.3-25.6 | 1.3  | G |  | <i>Bare Ground</i>              |                     |
| 25.6-33.2 | 7.6  | G |  | <i>Pennisetum ciliare</i>       | Buffel Grass        |
| 33.2-33.7 | 0.5  | G |  | <i>Bare Ground</i>              |                     |
| 33.7-42.8 | 9.1  | G |  | <i>Pennisetum ciliare</i>       | Buffel Grass        |
| 42.8-43.8 | 1.0  | G |  | <i>Panicum decompositum</i>     |                     |
| 43.8-48.1 | 4.3  | G |  | <i>Pennisetum ciliare</i>       | Buffel Grass        |
| 48.1-49.3 | 1.2  | G |  | <i>Bare Ground</i>              |                     |
| 49.3-50   | 0.7  | G |  | <i>Parthenium hysterophorus</i> | Parthenium          |
| 50-63     | 13.0 | G |  | <i>Pennisetum ciliare</i>       | Buffel Grass        |
| 63-63.8   | 0.8  | G |  | <i>Bare Ground</i>              |                     |
| 63.8-65   | 1.2  | G |  | <i>Pennisetum ciliare</i>       | Buffel Grass        |
| 65.0-65.8 | 0.8  | G |  | <i>Bare Ground</i>              |                     |
| 65.8-71   | 5.2  | G |  | <i>Pennisetum ciliare</i>       | Buffel Grass        |
| 71.0-72   | 1.0  | G |  | <i>Panicum decompositum</i>     | Native Millet       |
| 72.0-74.8 | 2.8  | G |  | <i>Bare Ground</i>              |                     |
| 74.8-76.9 | 2.1  | G |  | <i>Pennisetum ciliare</i>       | Buffel Grass        |
| 76.9-78.2 | 1.3  | G |  | <i>Bare Ground</i>              |                     |
| 78.2-87.4 | 5.2  | G |  | <i>Pennisetum ciliare</i>       | Buffel Grass        |
| 87.4-89   | 1.6  | G |  | <i>Parthenium hysterophorus</i> | Parthenium          |
| 89.0-90.5 | 1.5  | G |  | <i>Pennisetum ciliare</i>       | Buffel Grass        |
| 90.5-91   | 0.5  | G |  | <i>Bare Ground</i>              |                     |
| 91.0-97   | 6.0  | G |  | <i>Pennisetum ciliare</i>       | Buffel Grass        |
| 97.0-100  | 3.0  | G |  | <i>Aristida latifolia</i>       | Fethertop Wiregrass |
|           |      |   |  |                                 |                     |

#### Summary:

Measured crown cover %  
of EDL 0 -100m:

*Pennisetum ciliare* 79%  
Bare ground 13%  
*Panicum decompositum* 2%  
*Parthenium hysterophorus* 3%  
*Aristida latifolia* 3%

Structural formation

Grassland

#### Conclusions/notes:

- Only two (2) native grass species observed within transect
- Area dominated by *Pennisetum ciliare* (Buffel Grass) 79%CC.
- Heavily grazed
- No fauna observed



- No hollow logs/fallen timber observed

**Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)**

| Str. | Rel. | Scientific Name          | Common Name          |
|------|------|--------------------------|----------------------|
| T1   |      | ABSENT                   |                      |
| T2   |      | ABSENT                   |                      |
| S    | A    | Geijera parviflora       | Wilga                |
|      | A    | Acacia decora            | Pretty Wattle        |
|      |      |                          |                      |
| G    | D    | Pennisetum ciliare       | Buffel Grass         |
|      |      | Parthenium hysterophorus | Parthenium           |
|      |      | Panicum decompositum     | Native Millet        |
|      |      | Aristida latifloia       | Feathertop Wiregrass |
|      |      |                          |                      |



## Moray Downs - Vegetation Transect 5

|           |                                    |           |                              |           |           |
|-----------|------------------------------------|-----------|------------------------------|-----------|-----------|
| Site No.  | 5                                  | Recorder: | David Havill & Lincoln Smith | Day/Date: | 22/5/2012 |
| Purpose   | Regional Ecosystem & Remnant Check |           |                              |           |           |
| Locality: | Moray Downs                        |           |                              |           |           |



Photo: The area mapped as remnant grassland RE11.4.11 within the investigation area is dominated with *Pennisetum ciliare* (Buffel Grass).

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   |               |                 | ABSENT                       |
| T2   |               |                 | ABSENT                       |
| T3   |               |                 |                              |
| S1   | 1.5m          | 1-2m            | VS                           |
| S2   |               |                 |                              |
| G  | 0.5m          | 0-1m            | D                            |
| Structural formation including height: (estimated) |               |                 |                              |



|                              |   |
|------------------------------|---|
| Grassland                    |   |
| Ecologically dominant layer: | G |
|                              |   |

#### **Transect – Crown Cover Measured (Transect intercept method)**

|                  |      |        |   |   |   |            |                  |            |
|------------------|------|--------|---|---|---|------------|------------------|------------|
| GPS coordinates: |      | Datum: |   |   |   | MGA 55     | Transect length: | 100m       |
| Start point      | Zone | 5      | 5 | E | 0 | 146.553232 | N                | -21.915248 |
| End point        | Zone | 5      | 5 | E | 0 | 146.552816 | N                | -21.915009 |

| Interval (metres) | Intercept | Str. |  | Species                         | Common Name          |
|-------------------|-----------|------|--|---------------------------------|----------------------|
| 0-0.8             | 0.8       | G    |  | <i>Leptochloa digitata</i>      | Umbrella Cane Grass  |
| 0.8-2.1           | 1.3       | G    |  | <i>Parthenium hysterophorus</i> | Parthenium           |
| 2.1-3.0           | 0.7       | G    |  | <i>Pennisetum ciliare</i>       | Buffel Grass         |
| 3.0-3.5           | 0.5       | G    |  | <i>Bare Ground</i>              |                      |
| 3.5-4.8           | 1.3       | G    |  | <i>Leptochloa digitata</i>      | Umbrella Cane grass  |
| 4.8-5.4           | 0.6       | G    |  | <i>Parthenium hysterophorus</i> | Parthenium           |
| 5.4-15.5          | 10.1      | G    |  | <i>Aristida latifolia</i>       | Feathertop Wiregrass |
| 15.5-16.7         | 1.2       | G    |  | <i>Pennisetum ciliare</i>       | Buffel Grass         |
| 16.7-17.9         | 1.2       | G    |  | <i>Aristida latifolia</i>       | Feathertop Wiregrass |
| 17.9-18.9         | 1.0       | G    |  | <i>Pennisetum ciliare</i>       | Buffel Grass         |
| 18.9-19.5         | 0.6       | G    |  | <i>Aristida latifolia</i>       | Feathertop WireGrass |
| 19.5-20.2         | 0.7       | G    |  | <i>Parthenium hysterophorus</i> | Parthenium           |
| 20.2-22.4         | 2.2       | G    |  | <i>Pennisetum ciliare</i>       | Buffel Grass         |
| 22.4-23.0         | 0.6       | G    |  | <i>Bare Ground</i>              |                      |
| 23.0-25.0         | 2.0       | G    |  | <i>Parthenium hysterophorus</i> | Parthenium           |
| 25.0-26.1         | 1.1       | G    |  | <i>Panicum decompositum</i>     | Native Millet        |
| 26.1-27.6         | 1.5       | G    |  | <i>Pennisetum ciliare</i>       | Buffel Grass         |
| 27.6-29.5         | 1.9       | G    |  | <i>Parthenium hysterophorus</i> | Parthenium           |
| 29.5-31.0         | 1.5       | G    |  | <i>Pennisetum ciliare</i>       | Buffel Grass         |
| 31.0-32.4         | 1.4       | G    |  | <i>Parthenium hysterophorus</i> | Parthenium           |
| 32.4-33.0         | 7.6       | G    |  | <i>Leptochloa digitata</i>      | Umbrella Cane Grass  |
| 33.0-34.4         | 1.4       | G    |  | <i>Bare Ground</i>              |                      |
| 34.4-49.3         | 14.9      | G    |  | <i>Pennisetum ciliare</i>       | Buffel Grass         |



|           |     |   |  |             |  |
|-----------|-----|---|--|-------------|--|
| 49.3-50.0 | 0.7 | G |  | Bare Ground |  |
|-----------|-----|---|--|-------------|--|

| Conclusions/notes:  |  |
|---|--|
| Measured crown cover %<br>of EDL 0 -100m:   | <i>Pennisetum ciliare</i> 40%<br><br>Bare ground 6%<br><br><i>Panicum decompositum</i> 2%<br><br><i>Parthenium hysterophorus</i> 7.9%<br><br><i>Aristida latifolia</i> 21%<br><br><i>Leptochloa digitata</i> 17% |
| Structural formation  | Grassland  |
| <ul style="list-style-type: none"> <li>Only three (3) native grass species observed within transect</li> <li>Area dominated by <i>Pennisetum ciliare</i> (Buffel Grass) and <i>Parthenium hysterophorus</i> (Parthenium)</li> <li>Heavily grazed</li> <li>No fauna observed</li> <li>No hollow logs/fallen timber observed</li> </ul> |  |

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**

| Str. | Rel. | Scientific Name                 | Common Name            |
|------|------|---------------------------------|------------------------|
| T1   |      | ABSENT                          |                        |
| T2   |      | ABSENT                          |                        |
| S    | A    | <i>Geijera parviflora</i>       | Wilga                  |
|      | A    | <i>Acacia decora</i>            | Pretty Wattle          |
|      |      |                                 |                        |
| G    | D    | <i>Pennisetum ciliare</i>       | Buffel Grass           |
|      | A    | <i>Parthenium hysterophorus</i> | Parthenium             |
|      | A    | <i>Panicum decompositum</i>     |                        |
|      | A    | <i>Aristida latifolia</i>       | Feathertop Wiregrass   |
|      | O    | <i>Leptochloa digitata</i>      | Umbrella Cane Grass    |
|      | A    | <i>Rhynchosia minima</i>        | Native Sensitive Plant |
|      | A    | <i>Glycine latifolia</i>        |                        |



## Moray Downs - Vegetation Transect 6

|           |                                    |           |                              |           |           |
|-----------|------------------------------------|-----------|------------------------------|-----------|-----------|
| Site No.  | 6                                  | Recorder: | David Havill & Lincoln Smith | Day/Date: | 22/5/2012 |
| Purpose   | Regional Ecosystem & Remnant Check |           |                              |           |           |
| Locality: | Moray Downs                        |           |                              |           |           |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   | 13m           | 11-16m          | M                            |
| T2   | 4m            | 3-5m            | VS                           |
| T3   |               |                 |                              |
| S1   | 1m            | 0.5-2m          | VS                           |
| S2   |               |                 |                              |
| G  | 0.25m         | 0-0.5m          | M/D                          |
| Structural formation including height: (estimated) |               |                 |                              |
| Open Forest  |               |                 |                              |
| Ecologically dominant layer:                       |               | T1              |                              |

### Transect – Crown Cover Measured (Transect intercept method)

| GPS coordinates: |      | Datum: |   |   | MGA 55     | Transect length: |            | 100m |  |
|------------------|------|--------|---|---|------------|------------------|------------|------|--|
| Start point      | Zone | 5      | 5 | E | 146.641707 | N                | -21.923393 |      |  |
| End point        | Zone | 5      | 5 | E | 146.640818 | N                | -21.924275 |      |  |

| Interval (metres) | Intercept | Str. | Height | Species                         | Common Name          |
|-------------------|-----------|------|--------|---------------------------------|----------------------|
| 5.2-20            | 14.8      | T1   | 14     | <i>Eucalyptus coolabah</i>      | Coolabah             |
| 27.2-35.6         | 8.4       | T1   | 15     | <i>Eucalyptus coolabah</i>      | Coolabah             |
| 37-51.3           | 14.3      | T1   | 15     | <i>Eucalyptus coolabah</i>      | Coolabah             |
| 60-66             | 6         | T1   | 16     | <i>Eucalyptus coolabah</i>      | Coolabah             |
| 69-73.3           | 4.3       | T1   | 14     | <i>Eucalyptus coolabah</i>      | Coolabah             |
| 80.1-88.6         | 8.5       | T1   | 12     | <i>Eucalyptus camaldulensis</i> | Murray River Red Gum |
| 93.2-100          | 6.8       | T1   | 14     | <i>Eucalyptus coolabah</i>      | Coolabah             |



| Summary:   |             |  |
|--|-------------|--|
| Minimum height of plants included in the transect table:                                   | 10m         |  |
| Intercept of EDL 0 - 50m:  | 36.2m       |  |
| Intercept of EDL 50 -100m:   | 26.9m       |  |
| Measured crown cover % of EDL 0 -100m:   | 63.1%       |  |
| Structural formation   | Open Forest |  |
| Conclusions/notes:   |             |  |
| <ul style="list-style-type: none"><li>▪ Creek/Flood Plain</li></ul>                        |             |  |
| <ul style="list-style-type: none"><li>▪ Flooding and cattle damage</li></ul>               |             |  |
| <ul style="list-style-type: none"><li>▪ Deadfall and hollow logs within transect</li></ul> |             |  |
| <ul style="list-style-type: none"><li>▪ No Brigalow present</li></ul>                      |             |  |
| <ul style="list-style-type: none"><li>▪ Pools of water</li></ul>                           |             |  |

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**

| Str. | Rel. dom. | Scientific Name                 | Common Name            |
|------|-----------|---------------------------------|------------------------|
| T1   | D         | <i>Eucalyptus coolbah</i>       | Coolabah               |
|      | A         | <i>Eucalyptus camaldulensis</i> | Murray River Red Gum   |
|      |           |                                 |                        |
| T2   | A         | <i>Acacia salicina</i>          | Sally Wattle           |
|      | A         | <i>Geijera parviflora</i>       | Wilga                  |
|      | A         | <i>Terminalia oblongata</i>     | Yellowwood             |
|      | A         | <i>Acacia cambagei</i>          | Gidgee                 |
| S    | A         | <i>Geijera parviflora</i>       | Wilga                  |
|      | A         | <i>Terminalia oblongata</i>     | Yellowwood             |
| G    | A         | <i>Aristida latifolia</i>       | Feathertop Wiregrass   |
|      | A         | <i>Cyperus sp.</i>              |                        |
|      | A         | <i>Gomphrena celosioides</i>    | Gomphrena Weed         |
|      | A         | <i>Cyperus gracilis</i>         | Slender Sedge          |
|      | A         | <i>Acacia farnesiana</i>        | Mimosa Bush            |
|      | A         | <i>Sia cordifolia</i>           | Flannel Weed           |
|      | D         | <i>Pennisetum ciliare</i>       | Buffel Grass           |
|      | A         | <i>Rhynchosia minima</i>        | Native Sensitive Plant |



## Moray Downs - Vegetation Transect 7

|                  |                                    |                  |                              |                  |           |
|------------------|------------------------------------|------------------|------------------------------|------------------|-----------|
| <b>Site No.</b>  | 7                                  | <b>Recorder:</b> | David Havill & Lincoln Smith | <b>Day/Date:</b> | 22/5/2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                              |                  |           |
| <b>Locality:</b> | Moray Downs                        |                  |                              |                  |           |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  | 16m           | 10-19m          | M                            |
| T2  | 5m            | 3-8m            | VS                           |
| T3  |               |                 |                              |
| S1  | 1.5m          | 0.5-2.0m        | VS                           |
| S2  |               |                 |                              |
| G   | 0.25m         | 0-0.5m          | M/S                          |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Open Forest   |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       |               | T1              |                              |

### Transect – Crown Cover Measured (Transect intercept method)

| GPS coordinates: |      | Datum: |   |   | MGA 55     | Transect length: |            | 100m |  |
|------------------|------|--------|---|---|------------|------------------|------------|------|--|
| Start point      | Zone | 5      | 6 | E | 146.650103 | N                | -21.923951 |      |  |
| End point        | Zone | 5      | 6 | E | 146.648943 | N                | -21.923997 |      |  |

| Interval (metres) | Intercept | Str. | Height | Species                         | Common Name         |
|-------------------|-----------|------|--------|---------------------------------|---------------------|
| 0-7.8             | 7.8       | T1   | 13     | <i>Eucalyptus coolabah</i>      | Coolabah            |
| 10.5-27.9         | 16.5      | T1   | 15     | <i>Eucalyptus coolabah</i>      | Coolabah            |
| 30-37.0           | 7.0       | T1   | 11     | <i>Eucalyptus coolabah</i>      | Coolabah            |
| 50.0-60.0         | 10.0      | T1   | 17     | <i>Eucalyptus coolabah</i>      | Coolabah            |
| 74.8-78.9         | 4.1       | T1   | 15     | <i>Eucalyptus coolabah</i>      | Coolabah            |
| 82.0-89.8         | 7.8       | T1   | 19     | <i>Eucalyptus camaldulensis</i> | Murray River redgum |
| 89.8-100          | 0.2       | T1   | 17     | <i>Eucalyptus coolabah</i>      | Coolabah            |



**Summary:**

|  |             |
|--|-------------|
| Minimum height of plants included in the transect table: | 10 m        |
| Intercept of EDL 0 - 50m:                                | 31.3 m      |
| Intercept of EDL 50 - 100m:                              | 22.1 m      |
| Measured crown cover % of EDL 0 - 100m:                  | 53.4 %      |
| Structural formation                                     | Open Forest |

**Conclusions/notes:**

- RE 11.3.3
- Good habitat large hollows
- Flood damage and some cattle damage
- Evidence of fires observed

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**

| Str. | Rel. dom. | Scientific Name                 | Common Name          |
|------|-----------|---------------------------------|----------------------|
| T1   | D         | <i>Eucalyptus coolbah</i>       | Coolabah             |
|      | A         | <i>Eucalyptus camaldulensis</i> | Murray River Red Gum |
|      |           |                                 |                      |
| T2   | A         | <i>Acacia salicina</i>          | Sally Wattle         |
|      | A         | <i>Geijera parviflora</i>       | Wilga                |
|      | A         | <i>Terminalia oblongata</i>     | Yellowwood           |
|      | A         | <i>Acacia cambagei</i>          | Gidgee               |
| S    | A         | <i>Geijera parviflora</i>       | Wilga                |
|      | A         | <i>Terminalia oblongata</i>     | Yellowwood           |
|      |           |                                 |                      |
| G    | A         | <i>Aristida latifolia</i>       | Feathertop Wiregrass |
|      | A         | <i>Gomphrena celosioides</i>    | Gomphrena Weed       |
|      | A         | <i>Acacia farnesiana</i>        | Mimosa Bush          |
|      | A         | <i>Sia cordifolia</i>           | Flannel Weed         |
|      | D         | <i>Pennisetum ciliare</i>       | Buffel Grass         |
|      | A         | <i>Leptochloa digitata</i>      | Umbrella Cane Grass  |
|      |           |                                 |                      |



## Moray Downs - Quaternary Site I

| Dominance (D,CD,O,A)  |    | Species                         |
|---|----|---------------------------------|
| T1 Layer  | CD | <i>Eucalyptus coolabah</i>      |
|   | CD | <i>Eucalyptus camaldulensis</i> |
|   |    |                                 |
| T2 Layer  | A  | <i>Acacia salicina</i>          |
|   | A  | <i>Lysiphyllum</i> sp.          |
|   | A  | <i>Terminalia oblongata</i>     |
|   |    |                                 |
| Shrub Layer   | A  | <i>Acacia salicina</i>          |
|   | A  | <i>Acacia decora</i>            |
|   | A  | <i>Lysiphyllum</i> sp.          |
|   |    |                                 |
| Ground  | D  | <i>Pennisetum ciliare</i>       |
|   | A  | <i>Panicum</i> spp.             |
|   | A  | <i>Leptochloa digitata</i>      |
|   | A  | <i>Bothriochloa bladhii</i>     |
|   | A  | <i>Bothriochloa ewartinii</i>   |
|   | A  | <i>Chrysopogon fallax</i>       |
| Notes : <ul style="list-style-type: none"> <li>- Ground layers largely absent, appears to be result of agricultural runoff</li> <li>- Grasses / weeds returning within areas where sunlight is penetrating through to ground layer</li> <li>- Flood damage evident</li> </ul> |    |                                 |



# Appendix B

Cassiopia Transects



## Cassiopia - Vegetation Transect I

|                  |                                    |                  |              |                  |           |
|------------------|------------------------------------|------------------|--------------|------------------|-----------|
| <b>Site No.</b>  | 1                                  | <b>Recorder:</b> | Andrew Craig | <b>Day/Date:</b> | 14/8/2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |              |                  |           |
| <b>Locality:</b> | Cassiopia                          |                  |              |                  |           |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  | 13            | 10-15           | M                            |
| T2  | 7             | 5-8             | S                            |
| T3  |               |                 |                              |
| S1  | 3             | 2-4             | S                            |
| S2  |               |                 |                              |
| G   | 0.5           | 0-1             | D                            |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Woodland to 15m   |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       |               | T1              |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                         |      |               |        |                         |               |                  |
|-------------------------|------|---------------|--------|-------------------------|---------------|------------------|
| <b>GPS coordinates:</b> |      | <b>Datum:</b> | MGA 55 | <b>Transect length:</b> | 100m          |                  |
| Start point             | Zone | 5             | 6      | E                       | 467668.43 m E | N 7576048.18 m S |
| End point               | Zone | 5             | 6      | E                       | 467576.72 m E | N 7576016.47 m S |

| Interval (metres) | Intercept | Str. | Height | Species                         | Common Name   |
|-------------------|-----------|------|--------|---------------------------------|---------------|
| 17.1-18.2         | 1.0       | T2   | 7      | <i>Geijera parviflora</i>       | Wilga         |
| 21.2-27.8         | 6.6       | T1   | 10     | <i>Eucalyptus coolabah</i>      | Coolabah      |
| 37.0-38.5         | 1.5       | T2   | 8      | <i>Geijera parviflora</i>       | Wilga         |
| 47.0-58.9         | 11.9      | T1   | 15     | <i>Eucalyptus camaldulensis</i> | River Red Gum |
| 79.2-85.1         | 5.9       | T1   | 12     | <i>Eucalyptus camaldulensis</i> | River Red Gum |



|  |          |       |
|--|----------|-------|
| Summary:   |          |       |
| Minimum height of plants included in the transect table:   | 9m       |       |
| Intercept of EDL 0 - 50m:  |          | 11.1m |
| Intercept of EDL 50 -100m:   |          | 14.8m |
| Measured crown cover % of EDL 0 -100m:   |          | 25.9% |
| Structural formation   | Woodland |       |
| Conclusions/notes:   |          |       |
| <ul style="list-style-type: none"><li>Woodland fringing drainage lines</li><li>Vegetation structure and species composition consistent with RE 11.3.25/11.3.37</li><li>Acacia harpophylla (Brigalow) was absent from the area surveyed. No RE 11.3.1 observed.</li><li>Some severe erosion and sedimentation along watercourse edges</li></ul> |          |       |

**Plant Species (*D* – Dominant; *C* – codominant; *A* – associated; *S* – Suppressed)**

| Str. | Rel. dom. | Scientific Name                 | Common Name          |
|------|-----------|---------------------------------|----------------------|
| T1   | CD        | <i>Eucalyptus coolabah</i>      | Coolabah             |
|      | CD        | <i>Eucalyptus camaldulensis</i> | River Red Gum        |
| T2   | A         | <i>Geijera parviflora</i>       | Wilga                |
|      | O         | <i>Terminalia oblongata</i>     | Yellowwood           |
|      | A         | <i>Eucalyptus coolabah</i>      | Coolabah             |
|      | A         | <i>Acacia stenophylla</i>       | Shoestring Acacia    |
|      |           |                                 |                      |
| S    | D         | <i>Muehlenbeckia florulenta</i> | Tangled Lignum       |
|      |           |                                 |                      |
| G    | CD        | <i>Enteropogon acicularis</i>   | Curly Windmill Grass |
|      | A         | <i>Pennisetum ciliare</i>       | Buffel Grass         |
|      | CD        | <i>Dicathanthium sericeum</i>   | Bluegrass            |
|      | O         | <i>Ottochloa gracillima</i>     |                      |
|      | A         | <i>Leptochloa digitata</i>      | Umbrella Cane Grass  |
|      | A         | <i>Bothrichloa ewartiana</i>    | Desert Bluegrass     |
|      | A         | <i>Bothrichloa bladhii</i>      |                      |



## Cassiopia - Vegetation Transect 2

|                  |                                    |                  |              |                  |            |
|------------------|------------------------------------|------------------|--------------|------------------|------------|
| <b>Site No.</b>  | 2                                  | <b>Recorder:</b> | Andrew Craig | <b>Day/Date:</b> | 14.08.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |              |                  |            |
| <b>Locality:</b> | Cassiopia                          |                  |              |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  | 10            | 8-12m           | M                            |
| T2  | 6             | 4-8m            | M                            |
| T3  |               |                 |                              |
| S1  | 1.5           | 1-2m            | M                            |
| S2  |               |                 |                              |
| G   | 0.5           | 0-1m            | D                            |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| RE 11.3.3 open Woodland confirmed                         |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       | T1            |                 |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                         |      |               |        |                         |               |                  |
|-------------------------|------|---------------|--------|-------------------------|---------------|------------------|
| <b>GPS coordinates:</b> |      | <b>Datum:</b> | MGA 55 | <b>Transect length:</b> | 100m          |                  |
| Start point             | Zone | 5             | 6      | E                       | 467756.52 m E | N 7576114.31 m S |
| End point               | Zone | 5             | 6      | E                       | 467677.52 m E | N 7576051.60 m S |

| Interval (metres) | Intercept | Str. | Height |  | Species                         | Common Name    |
|-------------------|-----------|------|--------|--|---------------------------------|----------------|
| 18.1-22.5         | 4.4       | T1   | 9      |  | <i>Eucalyptus coolabah</i>      | Coolabah       |
| 34.5-43.0         | 8.5       | T1   | 12     |  | <i>Eucalyptus coolabah</i>      | Coolabah       |
| 43.0-44.1         | 1.1       | S    | 1.5    |  | <i>Muehlenbeckia florulenta</i> | Tangled Lignum |
| 45.8-46.6         | 0.8       | S    | 1.5    |  | <i>Muehlenbeckia florulenta</i> | Tangled Lignum |
| 51.8-54.2         | 2.4       | S    | 1.7    |  | <i>Muehlenbeckia florulenta</i> | Tangled Lignum |
| 65.1-68.2         | 2.9       | T1   | 8      |  | <i>Eucalyptus coolabah</i>      | Coolabah       |
| 90.1-93.4         | 3.3       | T2   | 7      |  | <i>Terminalia oblongata</i>     | Yellowwood     |



| Summary:  |  |  |
|---|--|--|
| Minimum height of plants included in the transect table:  | 8m                                     |  |
| Intercept of EDL 0 - 50m:   | 12.9m                                  |  |
| Intercept of EDL 50 -100m:  | 2.9m                                   |  |
| Measured crown cover % of EDL 0 -100m:  | T1 - 15.8 %<br>T2 – 3.30 %<br>S – 4.3% |  |
| Structural formation  | Open Woodland                          |  |
| Conclusions/notes:  |  |  |
| <ul style="list-style-type: none"><li>Open woodland abutting waterway vegetation.</li><li>Vegetation structure and species composition consistent with RE 11.3.3.</li></ul> |  |  |

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**

| Str. | Rel. dom. | Scientific Name                 | Common Name          |
|------|-----------|---------------------------------|----------------------|
| T1   | D         | <i>Eucalyptus coolabah</i>      | Coolabah             |
|      |           |                                 |                      |
| T2   | D         | <i>Eucalyptus coolabah</i>      | Coolabah             |
|      | A         | <i>Geijera parviflora</i>       | Wilga                |
|      | O         | <i>Terminalia oblongata</i>     | Yellowwood           |
|      | A         | <i>Acacia salicina</i>          | Sally Wattle         |
|      |           |                                 |                      |
| S    | CD        | <i>Muehlenbeckia florulenta</i> | Tangled Lignum       |
|      | A         | <i>Acacia salicina</i>          | Sally Wattle         |
|      | CD        | <i>Eremophila mitchellii</i>    | False Sandlewood     |
|      | A         | <i>Eremophila biginoflora</i>   |                      |
|      | A         | <i>Terminalia oblongata</i>     | Yellowwood           |
|      |           |                                 |                      |
| G    | A         | <i>Chloris pectinata</i>        | Comb Chloris         |
|      | D         | <i>Enteropogon acicularis</i>   | Curly Windmill Grass |



## Cassiopia - Quaternary Site I

| Dominance (D,CD,O,A)   |    | Species                      |
|--|----|------------------------------|
| T1 Layer   | D  | <i>Eucalyptus brownii</i>    |
|  | A  | <i>Eucalyptus coolabah</i>   |
|  |    |                              |
| T2 Layer   | O  | <i>Eucalyptus coolabah</i>   |
|  |    |                              |
| Shrub Layer  | A  | <i>Carrisa ovata</i>         |
|  |    |                              |
| Ground   | O  | <i>Aristida latifolia</i>    |
|  | CD | <i>Chloris truncata</i>      |
|  | A  | <i>Heteropogon contortus</i> |
|  | CD | <i>Bothriichloa bladhii</i>  |
| Notes :  |    |                              |
| <ul style="list-style-type: none"> <li>- Vegetation structure and species composition consistent with RE11.3.10. Some species consistent with RE 11.3.37 observed in vicinity</li> <li>- Some moderate erosion observed</li> <li>- Grazing apparent in area.</li> <li>- Mapped as Least Concern vegetation.</li> </ul> |    |                              |

## Cassiopia - Quaternary Site 2

| Dominance (D,CD,O,A) |    | Species                         |
|----------------------|----|---------------------------------|
| T1 Layer             | CD | <i>Eucalyptus camaldulensis</i> |
|                      | CD | <i>Eucalyptus coolabah</i>      |
|                      |    |                                 |
| T2 Layer             | CD | <i>Terminalia oblongata</i>     |
|                      | O  | <i>Eucalyptus coolabah</i>      |
|                      | CD | <i>Geijera parviflora</i>       |
|                      | A  | <i>Acacia stenophylla</i>       |
| Shrub Layer          | A  | <i>Carrisa ovata</i>            |
|                      |    |                                 |
| Ground               | O  | <i>Leptochloa digitata</i>      |
|                      | A  | <i>Bothriichloa ewartiana</i>   |
|                      | CD | <i>Enteropogon acicularis</i>   |



|  |    |                            |
|--|----|----------------------------|
|  | A  | <i>Pennisetum ciliare</i>  |
|  | CD | <i>Dicanthium sericeum</i> |
| Notes :  |    |                            |
| <ul style="list-style-type: none"> <li>- Vegetation structure and species composition consistent with RE 11.3.25/11.3.37</li> <li>- <i>Acacia harpophylla</i> (Brigalow) was absent from the area surveyed. No RE 11.3.1 observed.</li> <li>- Some severe erosion and sedimentation along watercourse edges</li> </ul> |    |                            |

## Cassiopia - Quaternary Site 3

| Dominance (D,CD,O,A)   |    | Species                         |
|--|----|---------------------------------|
| T1 Layer   | D  | <i>Corymbia dallachiana</i>     |
|  | O  | <i>Corymbia clarksonia</i>      |
|  |    |                                 |
| T2 Layer   | O  | <i>Corymbia dallachiana</i>     |
|  | A  | <i>Corymbia clarksonia</i>      |
|  | D  | <i>Acacia salicina</i>          |
|  |    |                                 |
| Shrub Layer  | D  | <i>Eremophila mitchellii</i>    |
|  | A  | <i>Carrisa ovata</i>            |
|  | O  | <i>Acacia salicina</i>          |
|  | A  | <i>Grevillea striata</i>        |
|  | O  | <i>Acacia excelsa</i>           |
| Ground   | D  | <i>Pennisetum ciliare</i>       |
|  | CD | <i>Parthenium hysterophorus</i> |
|  | A  | <i>Themeda triandra</i>         |
|  | O  | <i>Heteropogon contortus</i>    |
| Notes :  |    |                                 |
| <ul style="list-style-type: none"> <li>- Vegetation structure and species composition consistent with regrowth RE 11.3.10/11.3.7.</li> <li>- Signs of previous clearing. Area heavily grazed.</li> <li>- Moderate to heavy infestations of <i>Parthenium hysterophorus</i> (Parthenium) and <i>Pennisetum ciliare</i> (Buffel Grass).</li> </ul> |    |                                 |



## Cassiopia - Quaternary Site 4

| Dominance (D,CD,O,A)  |    | Species                         |
|---|----|---------------------------------|
| T1 Layer  | D  | <i>Corymbia dallachiana</i>     |
|   | O  | <i>Corymbia clarksonia</i>      |
|   | O  | <i>Eucalyptus brownii</i>       |
| T2 Layer  | O  | <i>Corymbia dallachiana</i>     |
|   | O  | <i>Corymbia clarksonia</i>      |
|   | O  | <i>Eucalyptus brownii</i>       |
| Shrub Layer   | D  | <i>Acacia salicina</i>          |
|   | A  | <i>Acacia excelsa</i>           |
|   | A  | <i>Carrisa ovata</i>            |
|   | O  | <i>Acacia salicina</i>          |
|   | A  | <i>Grevillea striata</i>        |
|   | D  | <i>Eremophila mitchellii</i>    |
|   | O  | <i>Alphitonia excelsa</i>       |
|   | O  | <i>Petalostigma pubescens</i>   |
|   | O  | <i>Petalostigma pubescens</i>   |
| Ground  | CD | <i>Pennisetum ciliare</i>       |
|   | A  | <i>Chloris pectinata</i>        |
|   | CD | <i>Parthenium hysterophorus</i> |
|   | O  | <i>Heteropogon contortus</i>    |
|   | O  | <i>Xanthium pungens</i>         |
| Notes :   |    |                                 |
| <ul style="list-style-type: none"> <li>- Vegetation structure and species composition consistent with described RE 11.3.10/11.3.7.</li> <li>- Large quantity of dead standing timber apparent.</li> <li>- Moderate to heavy infestations of <i>Parthenium hysterophorus</i> (Parthenium) and <i>Pennisetum ciliare</i> (Buffel Grass).</li> </ul> |    |                                 |



# Appendix C

Elgin Downs Stud Vegetation Transects



## Elgin Downs - Vegetation Transect I

### Area A – Polygon 1

RE 11.3.5/11.3.1

|           |   |           |                             |           |         |
|-----------|---|-----------|-----------------------------|-----------|---------|
| Site No.  | 1   | Recorder: | David Havill / Steve Reeves | Day/Date: | 30/8/12 |
| Purpose   | Regional Ecosystem & Remnant Check        |           |                             |           |         |
| Locality: | Elgin Downs Stud (Isaac Regional Council) |           |                             |           |         |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  | 18m           | 16 – 19m-       | V                            |
| T1   | 7m            | 3 – 11m         | M                            |
| T2   |               |                 |                              |
| T3   |               |                 |                              |
| S1   | 1.5 m         | 1 – 2m          | VS                           |
| S2   |               |                 |                              |
| G  | 00.5m         | 0 – 1m          | M                            |
| Structural formation including height: (estimated) |               |                 |                              |
| Open Forest  |               |                 |                              |
| Ecologically dominant layer:                       | T1            |                 |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                  |      |        |   |   |            |                  |           |     |
|------------------|------|--------|---|---|------------|------------------|-----------|-----|
| GPS coordinates: |      | Datum: |   |   | MGA 55     | Transect length: |           | 50m |
| Start point      | Zone | 5      | 5 | E | 7578028.30 | N                | 473201.80 |     |
| End point        | Zone | 5      | 5 | E | 7578006.40 | N                | 473159.21 |     |

| Interval (metres)     | Intercept | Str. |   | Species                   | Common Name |
|-----------------------|-----------|------|---|---------------------------|-------------|
| T1 Transect Intercept |           |      |   |                           |             |
| 1 – 3.3               | 3.3       | T1   | 4 | <i>Acacia harpophylla</i> | Brigalow    |
| 8.3 – 13.2            | 4.9       | T1   | 7 | <i>Acacia harpophylla</i> | Brigalow    |
| 18.4 – 21.1           | 2.7       | T1   | 8 | <i>Acacia harpophylla</i> | Brigalow    |
| 26.8 – 29.4           | 2.6       | T1   | 7 | <i>Acacia harpophylla</i> | Brigalow    |



|                                 |     |    |   |                             |            |
|---------------------------------|-----|----|---|-----------------------------|------------|
| 33.2 – 36.1                     | 2.9 | T1 | 9 | <i>Acacia harpophylla</i>   | Brigalow   |
| 36.1 – 44.7                     | 8.6 | E  | 1 | <i>Eucalyptus coolabah</i>  | Coolabah   |
| 39.2 – 41.3                     | 2.1 | T1 | 8 | <i>Acacia harpophylla</i>   | Brigalow   |
| 42.7 – 48.2                     | 5.5 | T1 | 8 | <i>Acacia harpophylla</i>   | Brigalow   |
| 49.7 – 50                       | 0.3 | T1 | 7 | <i>Acacia harpophylla</i>   | Brigalow   |
| <b>Shrub Transect Intercept</b> |     |    |   |                             |            |
| 35.6 – 37.2m                    | 1.6 | S  | 2 | <i>Terminalia oblongata</i> | Yellowwood |
| 38.4 – 39.2m                    | 0.8 | S  | 1 | <i>Acacia harpophylla</i>   | Brigalow   |
| 47.1 – 48.7m                    | 1.6 | S  | 2 | <i>Terminalia oblongata</i> | Yellowwood |

#### Summary:

|  |                         |
|--|-------------------------|
| Minimum height of plants included in the transect table: | 4.5m                    |
| Intercept of EDL 0 – 50m:                                |                         |
| Intercept of EDL 50 – 100m:                              | 65.8%                   |
| Measured crown cover % of EDL 0 – 100m:                  | Open Forest to Woodland |
| Structural formation                                     |                         |

#### Conclusions/notes:

- Species consistent with Regional ecosystem 11.3.1
- No changes to mapped polygon proposed.
- Soils appear predominantly deep cracking clays with evidence of gilgai throughout.

#### Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)

| Str. | Rel. | Scientific Name             | Common Name         |
|------|------|-----------------------------|---------------------|
| E    | D    | <i>Eucalyptus coolabah</i>  | Coolabah            |
| T1   | D    | <i>Acacia harpophylla</i>   | Brigalow            |
|      | A    | <i>Terminalia oblongata</i> | Yellowwood          |
| S    | A    | <i>Acacia harpophylla</i>   | Brigalow            |
|      | A    | <i>Terminalia oblongata</i> | Yellowwood          |
| G    | A    | <i>Sporobolus caroli</i>    | Fairy Grass         |
|      | A    | <i>Panicum decompositum</i> | Native Millet       |
|      | C    | <i>Astrebla squarrosa</i>   | Bull Mitchell Grass |
|      | D    | <i>Pennisetum ciliaris</i>  | Buffel Grass        |



## Elgin Downs - Vegetation Transect 2

### Area A – Polygon 3

**Of Concern RE 11.4.6 – *Acacia cambagei* woodland on Cainozoic clay plains.**

|           |   |           |              |           |         |
|-----------|---|-----------|--------------|-----------|---------|
| Site No.  | 2   | Recorder: | David Havill | Day/Date: | 30/8/12 |
| Purpose   | Regional Ecosystem & Remnant Check        |           |              |           |         |
| Locality: | Elgin Downs Stud (Isaac Regional Council) |           |              |           |         |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   | 9 m           | 7 – 11 m        | VS                           |
| T2   | 4 m           | 3 – 7m          | VS                           |
| T3   |               |                 |                              |
| S1   | 1.5m          | 1 – 3m          | VS                           |
| S2   |               |                 |                              |
| G  | 0.5m          | 0 – 1m          | D                            |
| Structural formation including height: (estimated) |               |                 |                              |
| Non Remnant  |               |                 |                              |
| Ecologically dominant layer:                       |               | T2              |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                  |      |        |   |   |            |                  |           |      |
|------------------|------|--------|---|---|------------|------------------|-----------|------|
| GPS coordinates: |      | Datum: |   |   | MGA 55     | Transect length: |           | 100m |
| Start point      | Zone | 5      | 5 | E | 7578316.27 | N                | 474184.70 |      |
| End point        | Zone | 5      | 5 | E | 7578414.83 | N                | 474166.82 |      |

| Interval (metres)     | Intercept | Str. | Height | Species                      | Common Name      |
|-----------------------|-----------|------|--------|------------------------------|------------------|
| T1 Transect Intercept |           |      |        |                              |                  |
| 0 – 4.6               | 4.6m      | T1   | 7.1    | <i>Acacia harpophylla</i>    | Brigalow         |
| 23.5 – 26.7           | 3.2m      | T2   | 6.6    | <i>Terminalia oblongata</i>  | Yellowwood       |
| 28.1 – 31.3           | 3.2m      | T1   | 7.2    | <i>Acacia harpophylla</i>    | Brigalow         |
| 33.7 – 36.1           | 2.4m      | T2   | 6.1    | <i>Eremophila mitchellii</i> | False Sandlewood |
| 40.1 – 43.4           | 3.3m      | T2   | 5.3    | <i>Acacia excelsa</i>        | Ironwood         |
| 47.4 – 49.1           | 1.7m      | T2   | 3.6    | <i>Lysiphyllum carronii</i>  | Red Bauhinia     |



|                                 |      |    |      |                              |                  |
|---------------------------------|------|----|------|------------------------------|------------------|
| 50.7 – 54                       | 3.3m | T1 | 6.9  | <i>Eremophila mitchellii</i> | False Sandlewood |
| 54 – 55.7                       | 1.7m | T2 | 5.3  | <i>Acacia harpophylla</i>    | Brigalow         |
| 72.8 – 76.9                     | 4.1m | T1 | 9.7  | <i>Acacia harpophylla</i>    | Brigalow         |
| 79.0 – 85.5                     | 6.5m | T1 | 11.6 | <i>Acacia cambagei</i>       | Stinking Wattle  |
| 99.7 - 100                      | 0.3m | T1 | 8.3  | <i>Acacia cambagei</i>       | Stinking Wattle  |
| <b>Shrub Transect Intercept</b> |      |    |      |                              |                  |
| 2.5 – 3.6m                      | 1.1m | S  | 1.4  | <i>Carisa ovata</i>          | Current Bush     |
| 7.9 -8.3m                       | 0.4m | S  | 1.8  | <i>Acacia harpophylla</i>    | Brigalow         |
| 13.9 – 15.7m                    | 1.8m | S  | 1.2  | <i>Carrisa ovata</i>         | Current Bush     |
| 20.4 – 22.7m                    | 2.3m | S  | 1.2  | <i>Carrisa ovata</i>         | Current Bush     |
| 27.7 – 28.3m                    | 0.6m | S  | 1.9  | <i>Eremophila mitchellii</i> | False Sandlewood |
| 28.4 – 30.4m                    | 2.0m | S  | 1.2  | <i>Carrisa ovata</i>         | Current Bush     |
| 36.3 – 37.8m                    | 1.5m | S  | 2    | <i>Acacia excelsa</i>        | Ironwood         |
| 40.1 – 43.6m                    | 3.5m | S  | 1.3  | <i>Carrisa ovata</i>         | Current Bush     |
| 46.9 – 49.6m                    | 2.7m | S  | 1.3  | <i>Carrisa ovata</i>         | Current Bush     |

#### Summary:

|  |                         |
|--|-------------------------|
| Minimum height of plants included in the transect table: | 6.9m                    |
| Intercept of EDL 0 - 50m:                                | 7.8m                    |
| Intercept of EDL 50 -100m:                               | 15.9m                   |
| Measured crown cover % of EDL 0 -100m:                   | 23.7%                   |
| Structural formation                                     | Open Forest to Woodland |

#### Conclusions/notes:

- Species consistent with Of Concern Regional Ecosystem 11.4.6.
- 0-72m contains very little canopy vegetation and is proposed as Non remnant. Transect data post 72m contains a canopy density consistent with this regional ecosystem type.
- A small portion of Least Concern RE11.3.10 is mapped incorrectly and should be mapped Of Concern RE 11.4.6. These are slight boundary changes within the current regional ecosystem mapping.

#### Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)

| Str. | Rel. | Scientific Name             | Common Name      |
|------|------|-----------------------------|------------------|
| E    | D    | <i>Eucalyptus coolbah</i>   | Coolabah         |
| T1   | D    | <i>Acacia harpophylla</i>   | Brigalow         |
|      | A    | <i>Terminalia oblongata</i> | Yellowwood       |
| T2   | A    | <i>Terminalia oblongata</i> |                  |
|      | A    | <i>Eremophila mitchelli</i> | False Sandlewood |



|   |   |                             |                     |
|---|---|-----------------------------|---------------------|
|   |   |                             |                     |
| S | A | <i>Acacia harpophylla</i>   | Brigalow            |
|   | A | <i>Terminalia oblongata</i> | Yellowwood          |
|   | A | <i>Eremophila mitchelli</i> | False Sandlewood    |
|   | A | <i>Acacia excelsa</i>       | Ironwood            |
| G | A | <i>Sporobolus caroli</i>    | Fairy Grass         |
|   | A | <i>Panicum decompositum</i> | Native Millet       |
|   | C | <i>Astrebla squarrosa</i>   | Bull Mitchell Grass |
|   | D | <i>Pennisctum cilianre</i>  | Buffel Grass        |
|   |   | <i>Carrisa ovata</i>        | Currant Bush        |



## Elgin Downs - Vegetation Transect 3

### Area C – Polygon 1

**Endangered RE 11.4.8 – *Eucalyptus cambageana* woodland to open forest with *Acacia harpophylla* or *Acacia Argurodendron* on Cainozoic clay plains.**

**Of Concern RE 11.4.6 – *Acacia Cambagei* woodland on Cainozoic clay plains**

|           |   |           |                             |           |         |
|-----------|---|-----------|-----------------------------|-----------|---------|
| Site No.  | 3   | Recorder: | David Havill / Steve Reeves | Day/Date: | 30/8/12 |
| Purpose   | Regional Ecosystem & Remnant Check        |           |                             |           |         |
| Locality: | Elgin Downs Stud (Isaac Regional Council) |           |                             |           |         |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   | 9m            | 5-12m           | M                            |
| T2   | 3m            | 2-4m            | S                            |
| T3   |               |                 |                              |
| S1   | 1.5m          | 1-2m            | VS                           |
| S2   |               |                 |                              |
| G  | 0.5m          | 0-0.8m          | D                            |
| Structural formation including height: (estimated) |               |                 |                              |
| Woodland   |               |                 |                              |
| Ecologically dominant layer:                       |               | T1              |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                  |      |        |   |   |           |                  |            |
|------------------|------|--------|---|---|-----------|------------------|------------|
| GPS coordinates: |      | Datum: |   |   | MGA 55    | Transect length: | 100m       |
| Start point      | Zone | 5      | 5 | E | 481399.89 | N                | 7583104.41 |
| End point        | Zone | 5      | 5 | E | 481318.23 | N                | 7583161.47 |

| Interval (metres)     | Intercept | Str. |   | Species                   | Common Name     |
|-----------------------|-----------|------|---|---------------------------|-----------------|
| T1 Transect Intercept |           |      |   |                           |                 |
| 0 - 5.2               | 5.2       | T1   | 7 | <i>Acacia harpophylla</i> | Brigalow        |
| 11.6 - 15             | 3.4       | T1   | 7 | <i>Acacia harpophylla</i> | Brigalow        |
| 20.7 - 27             | 6.3       | T1   | 9 | <i>Acacia harpophylla</i> | Brigalow        |
| 40.1 - 46             | 5.9       | T1   | 7 | <i>Acacia cambagei</i>    | Stinking Wattle |



|                                 |      |    |   |                           |                 |
|---------------------------------|------|----|---|---------------------------|-----------------|
| 51.3 – 58.3                     | 7    | T1 | 9 | <i>Acacia cambagei</i>    | Stinking Wattle |
| 61 – 75.2                       | 21.2 | T1 | 8 | <i>Acacia cambagei</i>    | Stinking Wattle |
| 92.7 - 100                      | 7.3  | T1 | 9 | <i>Acacia cambagei</i>    | Stinking Wattle |
| <b>T2 Transect Intercept</b>    |      |    |   |                           |                 |
| 41.6 – 44                       | 3.4  | T2 | 3 | <i>Acacia harpophylla</i> | Brigalow        |
| <b>Shrub Transect Intercept</b> |      |    |   |                           |                 |
| 22.7 – 24                       | 1.3  | S  | 1 | <i>Acacia harpophylla</i> | Brigalow        |
| 34.5 – 35.6                     | 1.1  | S  | 1 | <i>Acacia cambagei</i>    | Stinking Wattle |
| 36.4 – 37.6                     | 1.2  | S  | 1 | <i>Acacia cambagei</i>    | Stinking Wattle |
| 38.8 – 40                       | 1.2  | S  | 1 | <i>Acacia cambagei</i>    | Stinking Wattle |
|                                 |      |    |   |                           |                 |

| Summary:   |          |  |
|--|----------|--|
| Minimum height of plants included in the transect table:   | 7        |  |
| Intercept of EDL 0 - 50m:  | 20.8     |  |
| Intercept of EDL 50 -100m:   | 35.5     |  |
| Measured crown cover % of EDL 0 -100m:   | 56.3     |  |
| Structural formation   | Woodland |  |
| Conclusions/notes:   |          |  |
| <ul style="list-style-type: none"><li>No Eucalyptus cambageana (Dawson Gum) recorded within the investigation area or within close proximity to the vegetation transect.</li><li>Species observed represent Of Concern RE11.4.6 and are dominated by Acacia cambagei with Acacia harpophylla scattered throughout.</li><li>The site is heavily disturbed with minor changes in vegetation boundaries observed due to vegetation clearing along an existing internal fence line.</li><li>Site contains evidence of cattle disturbances with the shrub layer highly disturbed.</li></ul> |          |  |

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**

| Str. | Rel. | Scientific Name              | Common Name      |
|------|------|------------------------------|------------------|
| T1   | C    | <i>Acacia harpophylla</i>    | Brigalow         |
|      | D    | <i>Acacia cambagei</i>       | Stinking Wattle  |
|      |      |                              |                  |
| T2   | C    | <i>Acacia harpophylla</i>    | Brigalow         |
|      | D    | <i>Acacia cambagei</i>       | Stinking Wattle  |
|      | A    | <i>Lysiphyllum carronii</i>  | Red Bauhinia     |
|      |      |                              |                  |
| S    | A    | <i>Acacia harpophylla</i>    | Brigalow         |
|      | D    | <i>Carrisa ovata</i>         | Currant Bush     |
|      | A    | <i>Geijera Parviflora</i>    | Wilga            |
|      | A    | <i>Eremophila Mitchellii</i> | False Sandalwood |
|      |      |                              |                  |



|   |   |                             |              |
|---|---|-----------------------------|--------------|
| G | A | <i>Sporobolus caroli</i>    | Fairy Grass  |
|   | A | <i>Grewia Reusifolia</i>    | Dogs balls   |
|   | D | <i>Penniscutum cilianre</i> | Buffel Grass |
|   |   |                             |              |



## Elgin Downs - Quaternary Site I

### Of Concern Area A Polygon 2

| T1 Layer  | D  | <i>Eucalyptus coolabah</i>      |
|---|----|---------------------------------|
|   | A  | <i>Eucalyptus populnea</i>      |
|   |    |                                 |
| T2 Layer  | D  | <i>Eucalyptus coolabah</i>      |
|   |    |                                 |
| Shrub Layer   | O  | <i>Sesbania cannabina</i>       |
|   |    |                                 |
| Ground  | O  | <i>Aristida latifolia</i>       |
|   | CD | <i>Dichanthium sericeum</i>     |
|   | O  | <i>Themeda triandra</i>         |
|   | CD | <i>Panicum decompositum</i>     |
|   | O  | <i>Pennisetum ciliare</i>       |
|   | O  | <i>Enteropogon acicularis</i>   |
|   | O  | <i>Parthenium hysterophorus</i> |
| Notes : <ul style="list-style-type: none"> <li>• Open woodland dominated by Eucalyptus coolabah (Coolabah)</li> <li>• Dense native grass understorey with infestations of exotic/introduced weed species..</li> <li>• Alluvial plain species and structure consistent with RE 11.3.3</li> </ul> |    |                                 |



## Elgin Downs - Quaternary Site 2

### Endangered Area B Polygon 1 RE 1.3.1

| T1 Layer   |  | <i>Acacia harpophylla</i>   |
|--|--|-----------------------------|
|  |  | <i>Eucalyptus coolabah</i>  |
|  |  |                             |
| T2 Layer   |  | <i>Acacia harpophylla</i>   |
|  |  | <i>Geijera parviflora</i>   |
|  |  | <i>Terminalia oblongata</i> |
| Shrub Layer  |  | <i>Eremophila mitchelli</i> |
|  |  | <i>Carrisa ovata</i>        |
| Ground   |  | <i>Pennisetum ciliare</i>   |
|  |  | <i>Aristida latifolia</i>   |
|  |  | <i>Astrebla squorrosa</i>   |
|  |  | <i>Dichanthium sericeum</i> |
| Notes :  |  |                             |
| <ul style="list-style-type: none"> <li>• Very sparse understorey with great percentage of bare ground observed.</li> <li>• Area heavily grazed.</li> <li>• Quantity of standing dead timber observed.</li> </ul> |  |                             |

## Elgin Downs - Quaternary Site 3

### Least Concern Area B Polygon 2 RE 11.5.3

| Dominance (D,CD,O,A) |   | Species                       |
|----------------------|---|-------------------------------|
| T1 Layer             | D | <i>Corymbia clarksoina</i>    |
|                      | C | <i>Corymbia dallachyana</i>   |
|                      | C | <i>Eucalyptus brownii</i>     |
| T2 Layer             | A | <i>Corymbia clarksoina</i>    |
|                      | A | <i>Corymbia dallachyana</i>   |
|                      | A | <i>Eucalyptus brownii</i>     |
|                      |   | <i>Petalostigma pubescens</i> |
|                      |   | <i>Lysiphyllum carronii</i>   |
|                      |   | <i>Alphitonia excels</i>      |



| Dominance (D,CD,O,A)   |   | Species                       |
|--|---|-------------------------------|
|  |   | <i>Ventilago viminalis</i>    |
|  |   |                               |
|  |   |                               |
| Shrub Layer  |   | <i>Carrisa ovate</i>          |
|  |   | <i>Exocarpus latifolius</i>   |
|  |   | <i>Persoonia falcate</i>      |
|  |   | <i>Petalostigma pubescens</i> |
|  |   | <i>Owenia acidula</i>         |
|  |   | <i>Myoporum acuminatum</i>    |
|  |   |                               |
| Ground   | D | <i>Pennisetum ciliare</i>     |
|  | A | <i>Aristida latifolia</i>     |
|  | A | <i>Bothriochloa bladhii</i>   |
| Notes : Species composition and structure representative of RE 11.5.3. |   |                               |

## Elgin Downs - Quaternary Site 4

### Of Concern Area B Polygon 3 RE 11.4.6

| E  | D | <i>Eucalyptus coolbah</i>   |
|----|---|-----------------------------|
|    |   |                             |
|    |   |                             |
| T1 | D | <i>Acacia harpophylla</i>   |
|    | A | <i>Terminalia oblongata</i> |
|    |   |                             |
| S  | A | <i>Acacia harpophylla</i>   |
|    | A | <i>Terminalia oblongata</i> |
|    |   |                             |
| G  | A | <i>Sporobolus caroli</i>    |
|    | A | <i>Panicum decompositum</i> |
|    | C | <i>Astrebla squarrosa</i>   |
|    | D | <i>Pennisetum ciliare</i>   |



Notes :

- Species consistent with RE 11..4.6.

## Elgin Downs - Quaternary Site 5

### Least Concern Area D Polygon 1 RE 11.5.3

| Dominance (D,CD,O,A) |   | Species                         |
|----------------------|---|---------------------------------|
| T1 Layer             | D | <i>Corymbia clarksoina</i>      |
|                      | C | <i>Corymbia dallachyana</i>     |
|                      | C | <i>Eucalyptus brownii</i>       |
| T2 Layer             | A | <i>Corymbia clarksoina</i>      |
|                      | A | <i>Corymbia dallachyana</i>     |
|                      | A | <i>Eucalyptus brownii</i>       |
|                      | A | <i>Grevillea parallela</i>      |
|                      | A | <i>Acacia excelsa</i>           |
|                      | A | <i>Owenia acidula</i>           |
|                      | A | <i>Melaleuca sp.</i>            |
|                      | A | <i>Petalostigma pubescens</i>   |
|                      | A | <i>Clerodendrum floribundum</i> |
| Shrub Layer          | D | <i>Carrisa ovate</i>            |
|                      | A | <i>Breynia oblongifolia</i>     |
|                      | A | <i>Citrus glauca</i>            |
| Ground               | D | <i>Pennisetum ciliarre</i>      |
|                      | A | <i>Aristida latifolia</i>       |
|                      | A | <i>Bothriochloa bladhii</i>     |

Notes :

- Site Consistent with regional ecosystem mapping
- Heavily grazed with dense *Pennisetum ciliare* ground layer.



# Appendix D

Lot I on SPI47546



## Lot I on SPI47546 - Vegetation Transect I

|                  |                                       |                  |                             |                  |         |
|------------------|---------------------------------------|------------------|-----------------------------|------------------|---------|
| <b>Site No.</b>  | 1                                     | <b>Recorder:</b> | David Havill / Steve Reeves | <b>Day/Date:</b> | 30/8/12 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check    |                  |                             |                  |         |
| <b>Locality:</b> | S & P Dennis (Isaac Regional Council) |                  |                             |                  |         |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  | 10m           | 6 – 13m         | M                            |
| T2  | 5m            | 4 – 6m          | VS                           |
| T3  |               |                 |                              |
| S1  | 2m            | 1 – 3m          | VS                           |
| S2  |               |                 |                              |
| G   | 0.5m          | 0 – 1m          | D                            |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Woodland  |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       | T1            |                 |                              |

### Transect – Crown Cover Measured (Transect intercept method)

| GPS coordinates: |      | Datum: |   |   |            | MGA 55 | Transect length: |           | 100m |
|------------------|------|--------|---|---|------------|--------|------------------|-----------|------|
| Start point      | Zone | 5      | 5 | E | 7584598.96 |        | N                | 488929.13 |      |
| End point        | Zone | 5      | 5 | E | 7584515.91 |        | N                | 488877.28 |      |

| Interval (metres)             | Intercept | Str. | Height | Species                   | Common Name     |
|-------------------------------|-----------|------|--------|---------------------------|-----------------|
| <b>T1 Transect Intercepts</b> |           |      |        |                           |                 |
| 0 – 7.7m                      | 7.7m      | T1   | 9.4m   | <i>Acacia harpophylla</i> | Brigalow        |
| 26.5 – 34.0m                  | 7.5m      | T1   | 9.7m   | <i>Acacia cambagei</i>    | Stinking Wattle |
| 34.0 – 39.3m                  | 5.3m      | T1   | 7.3m   | <i>Acacia harpophylla</i> | Brigalow        |
| 40.0 – 44.0m                  | 4m        | T2   | 5.6m   | <i>Acacia harpophylla</i> | Brigalow        |
| 46.6 – 51.2m                  | 4.6m      | T1   | 7.6m   | <i>Acacia cambagei</i>    | Stinking Wattle |
| 54.4 – 62.0m                  | 7.6m      | T1   | 12.3m  | <i>Acacia cambagei</i>    | Stinking Wattle |
| 79.0 – 83.7m                  | 4.7m      | T1   | 10.1m  | <i>Acacia cambagei</i>    | Stinking Wattle |
| 91.7 – 96.1m                  | 4.4m      | T1   | 9.6m   | <i>Acacia cambagei</i>    | Stinking Wattle |
| 96.1 – 100m                   | 3.9m      | T1   | 9.6m   | <i>Acacia cambagei</i>    | Stinking Wattle |



| Groundlayer Transect Intercepts |      |   |      |                                 |                 |
|---------------------------------|------|---|------|---------------------------------|-----------------|
| 0 – 6.4                         | 6.4m | G | 0.5m | <i>Pennisctum cilianre</i>      | Buffel Grass    |
| 6.4 – 7.2                       | 0.8m | G | 0.5m | <i>Cyperus bifax</i>            | Nut Grass       |
| 7.2 – 10.2                      | 3.0m | G | 0.5m | <i>Bare Earth</i>               | Bare Earth      |
| 10.2 – 14.5                     | 4.3m | G | 0.5m | <i>Alternanthera nodiflora</i>  | Common Joyweed  |
| 14.5 – 16.8                     | 2.3m | G | 0.5m | <i>Enchylaena tomentosa</i>     | Ruby Saltbush   |
| 16.8 – 17.5                     | 0.7m | G | 0.5m | <i>Parthenium hysterophorus</i> | Parthenium Weed |
| 17.5 – 20.5                     | 3.0m | G | 0.5m | <i>Leaf Litter</i>              | Leaf Litter     |
| 20.5 – 22.6                     | 2.1m | G | 0.5m | <i>Bare Earth</i>               | Bare Earth      |
| 22.6 – 28.6                     | 6.0m | G | 0.5m | <i>Cyperus bifax</i>            | Nut Grass       |
| 28.6 – 33.8                     | 5.2m | G | 0.5m | <i>Leaf Litter</i>              | Leaf Litter     |
| 33.8 – 37.3                     | 3.5m | G | 0.5m | <i>Pennisctum cilianre</i>      | Buffel Grass    |
| 37.3 – 41.4                     | 4.1m | G | 0.5m | <i>Bare Earth</i>               | Bare Earh       |
| 41.4 – 43.6                     | 2.2m | G | 0.5m | <i>Pennisctum cilianre</i>      | Buffel Grass    |
| 43.6 – 47.2                     | 3.6m | G | 0.5m | <i>Sporobolus sp.</i>           | Grass           |
| 47.2 – 48.7                     | 1.5m | G | 0.5m | <i>Sporobolus caroli</i>        | Fairy Grass     |
| 48.7 - 50                       | 1.3m | G | 0.5m | <i>Pennisctum cilianre</i>      | Buffel Grass    |

|   |                         |  |
|---|-------------------------|--|
| Summary:  |                         |  |
| Minimum height of plants included in the transect table:  | 6.1m                    |  |
| Intercept of EDL 0 - 50m:   | 13.4m                   |  |
| Intercept of EDL 50 -100m:  | 14.2m                   |  |
| Measured crown cover % of EDL 0 -100m:  | 26.6%                   |  |
| Structural formation  | Open Forest to Woodland |  |
| Conclusions/notes:  |                         |  |
| <ul style="list-style-type: none"><li>Species consistent with Of Concern Regional Ecosystem 11.3.5</li><li>A significant water body is located towards the eastern boundary of the remnant polygon containing fringing vegetation associated with Of Concern RE11.3.3. The vegetation outside of this is associated with Least Concern RE 11.3.5.</li><li>Site is highly disturbed due to cattle grazing as well as evidence of feral pig diggings.</li></ul> |                         |  |

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed) Within Proposed Least Concern RE**

| Str. | Rel. | Scientific Name           | Common Name     |
|------|------|---------------------------|-----------------|
| E    | D    | <i>Acacia cambagei</i>    | Stinking Wattle |
|      |      | <i>Acacia harpophylla</i> | Brigalow        |
| T!   | D    | <i>Acacia cambagei</i>    | Stinking Wattle |
|      | A    | <i>Acacia harpophylla</i> | Brigalow        |



|   |   |                                 |                     |
|---|---|---------------------------------|---------------------|
| S | A | <i>Acacia cambagei</i>          | Stinking Wattle     |
|   | A | <i>Acacia harpophylla</i>       | Brigalow            |
|   |   |                                 |                     |
| G | A | <i>Sporobolus caroli</i>        | Fairy Grass         |
|   |   | <i>Parthenium hysterophorus</i> | Parthenium Weed     |
|   | A | <i>Panicum decompositum</i>     | Native Millet       |
|   | C | <i>Astrebla squarrosa</i>       | Bull Mitchell Grass |
|   | D | <i>Pennisctum cilianre</i>      | Buffel Grass        |

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed) Adjacent to Lagoon**

| Str. | Rel. | Scientific Name                 | Common Name             |
|------|------|---------------------------------|-------------------------|
| T1   | D    | <i>Eucalyptus coolabah</i>      | Coolabah                |
|      | A    | <i>Eucalyptus camaldulensis</i> | River Red Gum           |
|      | A    | <i>Acacia cambagei</i>          | Stinking Wattle         |
|      | A    | <i>Acacia harpophylla</i>       | Brigalow                |
|      |      |                                 |                         |
| T2   | A    | <i>Eucalyptus coolabah</i>      | Coolabah                |
|      | A    | <i>Eucalyptus camaldulensis</i> | River Red Gum           |
|      | A    | <i>Acacia cambagei</i>          | Stinking Wattle         |
|      | A    | <i>Acacia harpophylla</i>       | Brigalow                |
|      | A    | <i>Terminalia oblongata</i>     | Yellowwood              |
|      | A    | <i>Lysiphyllum hookeri</i>      | White Flowered Bauhinia |
|      |      |                                 |                         |
| S    | D    | <i>Geijera parviflora</i>       | Wilga                   |
|      |      |                                 |                         |
| G    | D    | <i>Meuhlenbeckia florulenta</i> | Tangled Lignum          |
|      | A    | <i>Sporobolus caroli</i>        | Fairy Grass             |
|      | A    | <i>Panicum decompositum</i>     | Native Millet           |
|      | A    | <i>Astrebla squarrosa</i>       | Bull Mitchell Grass     |
|      | A    | <i>Pennisctum cilianre</i>      | Buffel Grass            |



## Lot I on SPI47546 - Quaternary Site I

### Of Concern Area B RE11.3.3

| T1                                   | CD | <i>Eucalyptus coolabah</i>      |
|--------------------------------------|----|---------------------------------|
|                                      | CD | <i>Acacia cambageana</i>        |
|                                      | O  | <i>Acacia harpophylla</i>       |
|                                      |    |                                 |
| T2                                   | A  | <i>Eucalyptus coolabah</i>      |
|                                      | D  | <i>Acacia cambageana</i>        |
|                                      | A  | <i>Acacia harpophylla</i>       |
|                                      | O  | <i>Terminalia oblongata</i>     |
|                                      | O  | <i>Lysiphyllum carronii</i>     |
|                                      |    |                                 |
| S                                    | A  | <i>Eremophila bigoniiflora</i>  |
|                                      | O  | <i>Lysiphyllum carronii</i>     |
|                                      | A  | <i>Acacia cambagei</i>          |
|                                      | A  | <i>Acacia harpophylla</i>       |
|                                      | O  | <i>Terminalia oblongata</i>     |
|                                      | O  | <i>Owenia acidula</i>           |
| G                                    | O  | <i>Parthenium hysterophorus</i> |
|                                      | O  | <i>Carrisa ovata</i>            |
|                                      | A  | <i>Sporobolus caroli</i>        |
|                                      | O  | <i>Capparis lassiantha</i>      |
|                                      | O  | <i>Alternanthera nodosa</i>     |
|                                      | A  | <i>Exocarpus latifolius</i>     |
|                                      | D  | <i>Pennisetum ciliare</i>       |
|                                      |    |                                 |
|                                      |    |                                 |
| Notes :                              |    |                                 |
| - Species consistent with RE 11..3.3 |    |                                 |



# Appendix E

Old Twin Hill Holding Vegetation Transects



## Old Twin Hill - Quaternary Site I

### Of Concern Area RE 11.3.5/11.3.3

| Dominance (D,CD,O,A)   |   | Species                         |
|--|---|---------------------------------|
| T1 Layer   | D | <i>Eucalyptus coolabah</i>      |
|  | A | <i>Acacia harpophylla</i>       |
|  | A | <i>Corymbia dallachyana</i>     |
|  | A | <i>Eucalyptus camaldulensis</i> |
|  |   |                                 |
| T2 Layer   | D | <i>Eucalyptus coolabah</i>      |
|  | A | <i>Acacia harpophylla</i>       |
|  | A | <i>Corymbia dallachyana</i>     |
|  | A | <i>Eucalyptus camaldulensis</i> |
|  | C | <i>Terminalia oblongata</i>     |
|  | A | <i>Acacia cambagei</i>          |
|  | A | <i>Lysiphyllum hookeri</i>      |
|  |   |                                 |
| Shrub  | A | <i>Eucalyptus coolabah</i>      |
|  | A | <i>Acacia harpophylla</i>       |
|  | A | <i>Corymbia dallachyana</i>     |
|  | A | <i>Eucalyptus camaldulensis</i> |
|  | A | <i>Terminalia oblongata</i>     |
|  | A | <i>Acacia cambagei</i>          |
|  | A | <i>Lysiphyllum hookeri</i>      |
|  | A | <i>Geijera parviflora</i>       |
|  |   |                                 |
| Ground   | A | <i>Xanthium pungens</i>         |
|  | A | <i>Leptochloa digitata</i>      |
|  | A | <i>Panicum decompositum</i>     |
|  | A | <i>Dichanthium sericeum</i>     |
|  | A | <i>Dactyloctenium radulans</i>  |
| Notes : Species consistent with current regional ecosystem mapping |   |                                 |
| -  |   |                                 |



# Appendix F

Disney Holding Vegetation Transects



## Disney Holding - Vegetation Transect I

### Area A – Polygon 1

|                  |                                    |                  |                           |                  |            |
|------------------|------------------------------------|------------------|---------------------------|------------------|------------|
| <b>Site No.</b>  | 1                                  | <b>Recorder:</b> | David Havill & Tom Connor | <b>Day/Date:</b> | 15.06.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                           |                  |            |
| <b>Locality:</b> | Disney (Isaac Regional Council)    |                  |                           |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  | 8             | 5 – 16          | Medium                       |
| T2  | 2.5           | 2 – 4           | Sparse                       |
| T3  |               | -               |                              |
| S1  | 1.5           | 1 - 2           | Very Sparse                  |
| S2  |               | -               |                              |
| G   | 0.5           | 0 - 1           | Medium                       |
| <b>Structural formation including height: (estimated)</b> |               |                 |                              |
| Woodland  |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       | T1            |                 |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                         |      |               |        |                         |            |              |
|-------------------------|------|---------------|--------|-------------------------|------------|--------------|
| <b>GPS coordinates:</b> |      | <b>Datum:</b> | MGA 55 | <b>Transect length:</b> | 100m       |              |
| Start point             | Zone | 5             | 5      | E                       | 146.921704 | N -21.835030 |
| End point               | Zone | 5             | 5      | E                       | 146.922158 | N -21.834883 |

| Interval (metres) | Intercept | Str. | Height |  | Species                    | Common Name |
|-------------------|-----------|------|--------|--|----------------------------|-------------|
| 0 – 4.7           | 4.7m      | T1   | 15     |  | <i>Eucalyptus coolabah</i> | Coolabah    |
| 4.7 – 7.1         | 2.4m      | T2   | 3.5    |  | <i>Geijera parviflora</i>  | Wilga       |
| 15.9 – 18.8       | 2.9m      | T2   | 3.8    |  | <i>Geijera parviflora</i>  | Wilga       |
| 23.9 – 29.8       | 5.9m      | T1   | 7      |  | <i>Acacia harpophylla</i>  | Brigalow    |
| 29.8 -33.5        | 3.7m      | T2   | 4      |  | <i>Geijera parviflora</i>  | Wilga       |
| 35.3 – 36.9       | 1.6m      | T2   | 3.6    |  | <i>Geijera parviflora</i>  | Wilga       |



| Interval (metres) | Intercept | Str. | Height |  | Species                     | Common Name |
|-------------------|-----------|------|--------|--|-----------------------------|-------------|
| 36.9 – 41.1       | 5.2m      | T1   | 7      |  | <i>Acacia harpophylla</i>   | Brigalow    |
| 43.5 – 46.4       | 2.9m      | T1   | 7      |  | <i>Terminalia oblongata</i> | Yellowwood  |
| 55.7 – 60.7       | 5m        | T1   | 7      |  | <i>Acacia harpophylla</i>   | Brigalow    |
| 61.7 – 65.4       | 3.7m      | T2   | 3.2    |  | <i>Geijera parviflora</i>   | Wilga       |
| 67.4 – 77.4       | 10m       | T2   | 4.5    |  | <i>Geijera parviflora</i>   | Wilga       |
| 78.6 – 80.7       | 2.1m      | T2   | 4.5    |  | <i>Geijera parviflora</i>   | Wilga       |
| 80.7 – 81.9       | 1.2m      | T1   | 5      |  | <i>Eucalyptus coolabah</i>  | Coolabah    |
| 95.3 – 97.5       | 2.2m      | T1   | 6      |  | <i>Terminalia oblongata</i> | Yellowwood  |

#### Summary:

|  |          |        |
|--|----------|--------|
| Minimum height of plants included in the transect table: | 3.2 m    |        |
| Intercept of EDL 0 - 50m:                                |          | 18.7 m |
| Intercept of EDL 50 -100m:                               |          | 8.4 m  |
| Measured crown cover %                                   |          | 27.1%  |
| Structural formation                                     | Woodland |        |

#### Conclusions/notes:

- Vegetation clump heavily grazed;
- Flood debris at base of trees.
- Ground layer dominated by *Pennisetum ciliare* (Buffel Grass) within open patches.
- The *Eucalyptus coolabah* specimens have a trunk DBH between 20mm and 500mm.
- The *Acacia harpophylla* specimens have a trunk DBH between 100mm and 200mm.

#### Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)

| Str. | Rel. dom. | Scientific Name             | Common Name |
|------|-----------|-----------------------------|-------------|
| T1   | D         | <i>Eucalyptus coolbah</i>   | Coolabah    |
|      | C         | <i>Acacia harpophylla</i>   | Brigalow    |
|      |           |                             |             |
| T2   | D         | <i>Acacia harpophylla</i>   | Brigalow    |
|      | C         | <i>Geijera parviflora</i>   | Wilga       |
|      | A         | <i>Terminalia oblongata</i> | Yellowwood  |
|      |           |                             |             |
| S    | A         | <i>Geijera parviflora</i>   | Wilga       |
|      | A         | <i>Terminalia oblongata</i> | Yellowwood  |
|      |           |                             |             |
| G    | A         | <i>Sporobolus caroli</i>    | Fairy Grass |



|  |   |                                 |                     |
|--|---|---------------------------------|---------------------|
|  | A | <i>Parthenium hysterophorus</i> | Parthenium Weed     |
|  | A | <i>Gomphrena celosioides</i>    | Gomphrena Weed      |
|  | A | <i>Cyperus gracilis</i>         | Slender Sedge       |
|  | A | <i>Acacia farnesiana</i>        | Mimosa Bush         |
|  | A | <i>Sia cordifolia</i>           | Flannel Weed        |
|  | C | <i>Astrebla squarrosa</i>       | Bull Mitchell Grass |
|  | D | <i>Pennisetum ciliare</i>       | Buffel Grass        |



## Disney Holding - Vegetation Transect 2

### Area A – Polygon 2

|                  |                                    |                  |                           |                  |            |
|------------------|------------------------------------|------------------|---------------------------|------------------|------------|
| <b>Site No.</b>  | 2                                  | <b>Recorder:</b> | David Havill & Tom Connor | <b>Day/Date:</b> | 15.06.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                           |                  |            |
| <b>Locality:</b> | Disney (Isaac Regional Council)    |                  |                           |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  | 12            | 8 – 15          | Sparse / Medium              |
| T2  | 4             | 2 – 6           | Sparse                       |
| T3  |               | -               |                              |
| S1  | 1.5           | 1 - 2           | Very Sparse                  |
| S2  |               | -               |                              |
| G   | 0.5           | 0 - 1           | Dense                        |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Woodland  |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       | T1            |                 |                              |
|   |               |                 |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                         |      |               |        |                         |            |              |
|-------------------------|------|---------------|--------|-------------------------|------------|--------------|
| <b>GPS coordinates:</b> |      | <b>Datum:</b> | MGA 55 | <b>Transect length:</b> | 100m       |              |
| Start point             | Zone | 5             | 5      | E                       | 146.929387 | N -21.835489 |
| End point               | Zone | 5             | 5      | E                       | 146.930331 | N -21.835419 |

| Interval (metres) | Intercept | Str. | Height | Species                          | Common Name    |
|-------------------|-----------|------|--------|----------------------------------|----------------|
| 0 – 7             | 7m        | T1   | 8      | <i>Archidendropsis basaltica</i> | Dead Finish    |
| 28.9 – 29.9       | 1m        | T2   | 4      | <i>Terminalia oblongata</i>      | Yellowwood     |
| 39.5 – 50         | 10.5 m    | T1   | 14.5   | <i>Eucalyptus brownie</i>        | Reid River Box |
| 54.5 – 60.8       | 6.3 m     | T1   | 12     | <i>Eucalyptus brownie</i>        | Reid River Box |
| 92 - 100          | 8 m       | T1   | 9      | <i>Eucalyptus brownii</i>        | Reid River Box |



**Summary:**

|  |          |        |
|--|----------|--------|
| Minimum height of plants included in the transect table: | 4m       |        |
| Intercept of EDL 0 - 50m:                                |          | 17.5 m |
| Intercept of EDL 50 -100m:                               |          | 14.3 m |
| Measured crown cover % of EDL 0 -100m:                   |          | 31.8%  |
| Structural formation                                     | Woodland |        |

**Conclusions/notes:**

- Vegetation clump heavily grazed;
- Ground layer dominated by *Pennisetum ciliare* (Buffel Grass) .

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**

| Str. | Rel. dom. | Scientific Name                  | Common Name         |
|------|-----------|----------------------------------|---------------------|
| T1   | D         | <i>Eucalyptus brownii</i>        | Reid River Gum      |
|      | C         | <i>Archidendropsis basaltica</i> | Dead Finish         |
|      |           |                                  |                     |
| T2   | C         | <i>Archidendropsis basaltica</i> | Dead Finish         |
|      | D         | <i>Eucalyptus brownii</i>        | Reid River Gum      |
|      | A         | <i>Terminalia oblongata</i>      | Yellowwood          |
|      |           |                                  |                     |
| S    | A         | <i>Archidendropsis basaltica</i> | Dead Finish         |
|      | A         | <i>Carrisa ovata</i>             | Current Bush        |
|      |           |                                  |                     |
| G    | A         | <i>Heteropogon contortus</i>     | Black spear Grass   |
|      | A         | <i>Astrebla squarrosa</i>        | Bull Mitchell Grass |
|      | D         | <i>Pennisetum ciliare</i>        | Buffel Grass        |



## Disney Holding - Vegetation Transect 3

### Area A – Polygon 2

|                  |                                    |                  |                           |                  |            |
|------------------|------------------------------------|------------------|---------------------------|------------------|------------|
| <b>Site No.</b>  | 3                                  | <b>Recorder:</b> | David Havill & Tom Connor | <b>Day/Date:</b> | 15.06.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                           |                  |            |
| <b>Locality:</b> | Disney (Isaac Regional Council)    |                  |                           |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  | 12            | 8 – 15          | Sparse                       |
| T2  | 5             | 3 – 7           | Very Sparse                  |
| T3  |               | -               |                              |
| S1  | 1.5           | 1 - 2           | Very Sparse                  |
| S2  |               | -               |                              |
| G   | 0.5           | 0 - 1           | Dense                        |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Woodland  |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       | T1            |                 |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                         |      |               |        |                         |            |              |
|-------------------------|------|---------------|--------|-------------------------|------------|--------------|
| <b>GPS coordinates:</b> |      | <b>Datum:</b> | MGA 55 | <b>Transect length:</b> | 100m       |              |
| Start point             | Zone | 5             | 6      | E                       | 146.933059 | N -21.835736 |
| End point               | Zone | 5             | 6      | E                       | 146.933998 | N -21.835826 |

| Interval (metres) | Intercept | Str. | Height |  | Species                     | Common Name    |
|-------------------|-----------|------|--------|--|-----------------------------|----------------|
| 10.2 – 22.3       | 12.1 m    | T1   | 14     |  | <i>Corymbia dallachyana</i> | Ghost Gum      |
| 40.8 – 47         | 6.2 m     | T1   | 15     |  | <i>Eucalyptus brownii</i>   | Reid River Gum |
| 50 - 64           | 14 m      | T1   | 15     |  | <i>Corymbia intermedia</i>  | Pink Bloodwood |



| Summary:   |          |  |
|--|----------|--|
| Minimum height of plants included in the transect table:   | 14m      |  |
| Intercept of EDL 0 - 50m:  | 18.3 m   |  |
| Intercept of EDL 50 -100m:   | 14 m     |  |
| Measured crown cover % of EDL 0 -100m:   | 32.3%    |  |
| Structural formation   | Woodland |  |
| Conclusions/notes:   |          |  |
| <ul style="list-style-type: none"><li>Vegetation clump heavily grazed;</li></ul>                                   |          |  |
| <ul style="list-style-type: none"><li>Ground layer dominated by <i>Pennisetum ciliare</i> (Buffel Grass)</li></ul> |          |  |

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**

| Str. | Rel. dom. | Scientific Name                  | Common Name         |
|------|-----------|----------------------------------|---------------------|
| T1   | D         | <i>Eucalyptus brownii</i>        | Reid River Gum      |
|      | A         | <i>Archidendropsis basaltica</i> | Dead Finish         |
|      | A         | <i>Corymbia dallachiana</i>      | Ghost Gum           |
|      |           | <i>Corymbia intermedia</i>       | Pink Bloodwood      |
| T2   | C         | <i>Archidendropsis basaltica</i> | Dead Finish         |
|      | D         | <i>Eucalyptus brownii</i>        | Reid River Gum      |
|      |           | <i>Terminalia oblongata</i>      | Yellowwood          |
|      |           |                                  |                     |
| S    | A         | <i>Archidendropsis basaltica</i> | Dead Finish         |
|      | A         | <i>Carrisa ovata</i>             | Current Bush        |
|      |           | <i>Melaleuca bracteata</i>       | Black Teatree       |
|      |           |                                  |                     |
| G    | A         | <i>Heteropogon contortus</i>     | Black spear Grass   |
|      | A         | <i>Astrebla squarrosa</i>        | Bull Mitchell Grass |
|      | D         | <i>Pennisetum ciliare</i>        | Buffel Grass        |
|      | O         | <i>Capparis lasiantha</i>        | Wait-a-while        |
|      | A         | <i>Chloris gayana</i>            | Rhodes Grass        |



## Disney Holding - Quaternary Site 1

| Dominance (D,CD,O,A) |   | Species                |
|----------------------|---|------------------------|
| T1 Layer             | D | Eucalyptus coolabah    |
|                      | C | Acacia harpophylla     |
|                      | A | Acacia cambagei        |
| T2 Layer             | C | Acacia harpophylla     |
|                      | C | Geijera parviflora     |
|                      | A | Terminalia oblongata   |
|                      | A | Eremopholia mitchellii |
| Shrub Layer          | A | Terminalia oblongata   |
|                      | A | Geijera parviflora     |
|                      | A | Eremopholia mitchellii |
|                      | A | Acacia farnesiana      |

## Disney Holding - Quaternary Site 2

- No *Acacia harpophylla* (Brigalow)

| Dominance (D,CD,O,A) |   | Species                   |
|----------------------|---|---------------------------|
| T1 Layer             | D | Eucalyptus brownii        |
|                      | A | Archidendropsis basaltica |
|                      |   |                           |
| T2 Layer             | D | Archidendropsis basaltica |
|                      |   | Acacia cambagei           |
|                      |   |                           |
| Shrub Layer          | A | Carrisa ovata             |
|                      |   | Eucalyptus brownii        |
|                      |   | Acacia cambagei           |



## Disney Holding - Quaternary Site 3

|                  |                                    |                  |                            |                  |            |
|------------------|------------------------------------|------------------|----------------------------|------------------|------------|
| <b>Site No.</b>  | 3                                  | <b>Recorder:</b> | Dave Havill & Andrew Craig | <b>Day/Date:</b> | 14.06.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                            |                  |            |
| <b>Locality:</b> | Disney (Isaac Regional Council)    |                  |                            |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  |               |                 | ABSENT                       |
| T2  |               |                 | ABSENT                       |
| T3  |               | -               |                              |
| S1  |               |                 | ABSENT                       |
| S2  |               | -               |                              |
| G   | 1             | 0 – 1.5         | Dense                        |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Open Paddock  |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       | Ground        |                 |                              |

### Summary:

|   |             |
|---|-------------|
| Minimum height of plants included in the transect table:  | 0 m         |
| Intercept of EDL 0 - 50m:   | 0 m         |
| Intercept of EDL 50 -100m:  | 0 m         |
| Measured crown cover % of EDL 0 -100m:  | 0%          |
| Structural formation  | Non remnant |
| <b>Conclusions/notes:</b>   |             |
| <ul style="list-style-type: none"> <li>Vegetation located outside of property</li> <li>Ground layer dominated by <i>Pennisetum ciliare</i> (Buffel Grass) within open patches.</li> </ul> |             |



**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**

| Str. | Rel. dom. | Scientific Name                 | Common Name             |
|------|-----------|---------------------------------|-------------------------|
| G    | A         | <i>Leptochloa digitata</i>      | Umbrella Canegrass      |
|      | A         | <i>Heteropogon contortus</i>    | Black Speargrass        |
|      | A         | <i>Chrysopogon fallax</i>       | Golden Beard Grass      |
|      | A         | <i>Chloris virgata</i>          | Feathertop Rhodes Grass |
|      | A         | <i>Chloris divaricata</i>       | Slender Chloris         |
|      | A         | <i>Pennisetum echinatus</i>     | Mossman River Grass     |
|      | A         | <i>Arundinella nepalensis</i>   | Reed Grass              |
|      | A         | <i>Sporobolus caroli</i>        | Fairy Grass             |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium Weed         |
|      | A         | <i>Gomphrena celosioides</i>    | Gomphrena Weed          |
|      | A         | <i>Cyperus gracilis</i>         | Slender Sedge           |
|      | A         | <i>Panicum decompositum</i>     | Native Millet           |
|      | A         | <i>Acacia farnesiana</i>        | Mimosa Bush             |
|      | A         | <i>Sida cordifolia</i>          | Flannel Weed            |
|      | C         | <i>Astrebla squarrosa</i>       | Bull Mitchell Grass     |
|      | D         | <i>Pennisetum ciliare</i>       | Buffel Grass            |



## Disney Holding - Quaternary Site 4

|                  |                                    |                  |                            |                  |            |
|------------------|------------------------------------|------------------|----------------------------|------------------|------------|
| <b>Site No.</b>  | 4                                  | <b>Recorder:</b> | Dave Havill & Andrew Craig | <b>Day/Date:</b> | 14.06.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                            |                  |            |
| <b>Locality:</b> | Disney (Isaac Regional Council)    |                  |                            |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  |               |                 | ABSENT                       |
| T2  |               |                 | ABSENT                       |
| T3  |               | -               |                              |
| S1  |               | -               | ABSENT                       |
| S2  |               | -               |                              |
| G   | 1             | 0 – 1.5         | Dense                        |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Open Paddock  |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       | Ground        |                 |                              |

### Summary:

|   |             |
|---|-------------|
| Minimum height of plants included in the transect table:  | 0 m         |
| Intercept of EDL 0 - 50m:   | 0 m         |
| Intercept of EDL 50 -100m:  | 0 m         |
| Measured crown cover % of EDL 0 -100m:  | 0%          |
| Structural formation  | Non remnant |
| <b>Conclusions/notes:</b>   |             |
| <ul style="list-style-type: none"> <li>Vegetation located outside of property</li> <li>Ground layer dominated by <i>Pennisetum ciliare</i> (Buffel Grass) within open patches.</li> </ul> |             |



**Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)**

| Str. | Rel. dom. | Scientific Name                 | Common Name          |
|------|-----------|---------------------------------|----------------------|
| G    | A         | <i>Leptochloa digitata</i>      | Umbrella Canegrass   |
|      | A         | <i>Sporobolus caroli</i>        | Fairy Grass          |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium Weed      |
|      | A         | <i>Carrisa ovata</i>            | Currant Bush         |
|      | A         | <i>Aristida latifolia</i>       | Feathertop Wiregrass |
|      | A         | <i>Panicum decompositum</i>     | Native Millet        |
|      | A         | <i>Acacia farnesiana</i>        | Mimosa Bush          |
|      | A         | <i>Capparis lassiantha</i>      | Wait-A-While         |
|      | A         | <i>Dichanthium sericeum</i>     | Bluegrass            |
|      | D         | <i>Pennisetum ciliare</i>       | Buffel Grass         |



## Disney Holding - Quaternary Site 5

|                  |                                    |                  |                            |                  |            |
|------------------|------------------------------------|------------------|----------------------------|------------------|------------|
| <b>Site No.</b>  | 5                                  | <b>Recorder:</b> | Dave Havill & Andrew Craig | <b>Day/Date:</b> | 14.06.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                            |                  |            |
| <b>Locality:</b> | Disney (Isaac Regional Council)    |                  |                            |                  |            |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   |               |                 | ABSENT                       |
| T2   |               |                 | ABSENT                       |
| T3   |               | -               |                              |
| S1   |               |                 | ABSENT                       |
| S2   |               | -               |                              |
| G  | 1             | 0 – 1.5         | Dense                        |
| Structural formation including height: (estimated) |               |                 |                              |
| Open Paddock                                       |               |                 |                              |
| Ecologically dominant layer:                       |               | Ground          |                              |
|  |               |                 |                              |

### Summary:

|  |             |
|--|-------------|
| Minimum height of plants included in the transect table: | 0 m         |
| Intercept of EDL 0 - 50m:                                | 0 m         |
| Intercept of EDL 50 -100m:                               | 0 m         |
| Measured crown cover % of EDL 0 -100m:                   | 0%          |
| Structural formation                                     | Non remnant |

### Conclusions/notes:

- Vegetation located outside of property
- Ground layer dominated by *Pennisetum ciliare* (Buffel Grass) within open patches.

### Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)

| Str. | Rel. dom. | Scientific Name                 | Common Name        |
|------|-----------|---------------------------------|--------------------|
| G    | A         | <i>Leptochloa digitata</i>      | Umbrella Canegrass |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium Weed    |



|  |   |                              |                   |
|--|---|------------------------------|-------------------|
|  | D | <i>Pennisetum ciliare</i>    | Buffel Grass      |
|  | S | <i>Acacia cambagei</i>       | Gidgee            |
|  | A | <i>Heteropogon contortus</i> | Black Spear Grass |
|  | A | <i>Bothrichloa bladhii</i>   |                   |



## Disney Holding - Quaternary Site 6

|                  |                                    |                  |                            |                  |            |
|------------------|------------------------------------|------------------|----------------------------|------------------|------------|
| <b>Site No.</b>  | 6                                  | <b>Recorder:</b> | Dave Havill & Andrew Craig | <b>Day/Date:</b> | 14.06.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                            |                  |            |
| <b>Locality:</b> | Disney (Isaac Regional Council)    |                  |                            |                  |            |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   |               |                 | ABSENT                       |
| T2   |               |                 | ABSENT                       |
| T3   |               | -               |                              |
| S1   |               |                 | ABSENT                       |
| S2   |               | -               |                              |
| G  | 1             | 0 – 1.5         | Dense                        |
| Structural formation including height: (estimated) |               |                 |                              |
| Open Paddock                                       |               |                 |                              |
| Ecologically dominant layer:                       |               | Ground          |                              |
|  |               |                 |                              |

### Summary:

|  |             |  |
|--|-------------|--|
| Minimum height of plants included in the transect table:   | 0 m         |  |
| Intercept of EDL 0 - 50m:  | 0 m         |  |
| Intercept of EDL 50 -100m:   | 0 m         |  |
| Measured crown cover % of EDL 0 -100m:   | 0%          |  |
| Structural formation   | Non remnant |  |
| Conclusions/notes:   |             |  |
| <div>▪ Vegetation located outside of property</div>  |             |  |
| <div>▪ Ground layer dominated by <i>Pennisetum ciliare</i> (Buffel Grass) within open patches.</div> |             |  |
|  |             |  |



**Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)**

| Str. | Rel. dom. | Scientific Name                 | Common Name          |
|------|-----------|---------------------------------|----------------------|
| G    | D         | <i>Pennisetum ciliare</i>       | Buffel Grass         |
|      | A         | <i>Leptochloa digitata</i>      | Umbrella Canegrass   |
|      | A         | <i>Sporobolus caroli</i>        | Fairy Grass          |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium Weed      |
|      | A         | <i>Panicum decompositum</i>     | Native Millet        |
|      | A         | <i>Acacia farnesiana</i>        | Mimosa Bush          |
|      | S         | <i>Capparis lassiantha</i>      | Wait-A-While         |
|      | A         | <i>Dichanthium sericeum</i>     | Bluegrass            |
|      | S         | <i>Carrisa ovata</i>            | Currant Bush         |
|      | A         | <i>Aristida latifolia</i>       | Feathertop Wiregrass |



## Disney Holding - Quaternary Site 7

|                  |                                    |                  |                            |                  |            |
|------------------|------------------------------------|------------------|----------------------------|------------------|------------|
| <b>Site No.</b>  | 7                                  | <b>Recorder:</b> | Dave Havill & Andrew Craig | <b>Day/Date:</b> | 14.06.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                            |                  |            |
| <b>Locality:</b> | Disney (Isaac Regional Council)    |                  |                            |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  |               |                 | ABSENT                       |
| T2  |               |                 | ABSENT                       |
| T3  |               | -               |                              |
| S1  |               |                 | ABSENT                       |
| S2  |               | -               |                              |
| G   | 1             | 0 – 1.5         | Dense                        |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Open Paddock  |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       |               |                 |                              |
| Ground  |               |                 |                              |

### Summary:

|   |             |
|---|-------------|
| Minimum height of plants included in the transect table:  | 0 m         |
| Intercept of EDL 0 - 50m:   | 0 m         |
| Intercept of EDL 50 -100m:  | 0 m         |
| Measured crown cover % of EDL 0 -100m:  | 0%          |
| Structural formation  | Non remnant |
| <b>Conclusions/notes:</b>   |             |
| <ul style="list-style-type: none"> <li>Vegetation located outside of property</li> <li>Ground layer dominated by <i>Pennisetum ciliare</i> (Buffel Grass) within open patches.</li> </ul> |             |



**Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)**

| Str. | Rel. dom. | Scientific Name                 | Common Name        |
|------|-----------|---------------------------------|--------------------|
| G    | A         | <i>Leptochloa digitata</i>      | Umbrella Canegrass |
|      | D         | <i>Pennisetum ciliare</i>       | Buffel Grass       |
|      | S         | <i>Petalostigma pubescens</i>   | Quinine Bush       |
|      | S         | <i>Acacia harpophylla</i>       | Brigalow           |
|      | A         | <i>Sporobolus caroli</i>        | Fairy Grass        |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium Weed    |
|      | A         | <i>Cyperus gracilis</i>         | Slender Sedge      |
|      | A         | <i>Sia cordifolia</i>           | Flannel Weed       |
|      | A         | <i>Dichanthium sericeum</i>     | Bluegrass          |



## Disney Holding - Quaternary Site 8

|                  |                                    |                  |                            |                  |            |
|------------------|------------------------------------|------------------|----------------------------|------------------|------------|
| <b>Site No.</b>  | 8                                  | <b>Recorder:</b> | Dave Havill & Andrew Craig | <b>Day/Date:</b> | 14.06.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                            |                  |            |
| <b>Locality:</b> | Disney (Isaac Regional Council)    |                  |                            |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  |               |                 | ABSENT                       |
| T2  |               |                 | ABSENT                       |
| T3  |               | -               |                              |
| S1  |               |                 | ABSENT                       |
| S2  |               | -               |                              |
| G   | 1             | 0 – 1.5         | Dense                        |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Open Paddock  |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       |               |                 |                              |
| Ground  |               |                 |                              |

### Summary:

|   |             |
|---|-------------|
| Minimum height of plants included in the transect table:  | 0 m         |
| Intercept of EDL 0 - 50m:   | 0 m         |
| Intercept of EDL 50 -100m:  | 0 m         |
| Measured crown cover % of EDL 0 -100m:  | 0%          |
| Structural formation  | Non remnant |
| <b>Conclusions/notes:</b>   |             |
| <ul style="list-style-type: none"> <li>Vegetation located outside of property</li> <li>Ground layer dominated by <i>Pennisetum ciliare</i> (Buffel Grass) within open patches.</li> </ul> |             |



**Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)**

| Str. | Rel. dom. | Scientific Name                 | Common Name        |
|------|-----------|---------------------------------|--------------------|
| G    | D         | <i>Pennisetum ciliare</i>       | Buffel Grass       |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium Weed    |
|      | A         | <i>Dichanthium sericeum</i>     | Bluegrass          |
|      | A         | <i>Leptochloa digitata</i>      | Umbrella Canegrass |
|      | A         | <i>Panicum decompositum</i>     | Native Millet      |
|      | A         | <i>Bothrichloa bladhii</i>      |                    |
|      | S         | <i>Acacia excelsa</i>           |                    |
|      | S         | <i>Acacia decora</i>            | Pretty Wattle      |



## Disney Holding - Quaternary Site 9

|           |                                    |           |                            |           |            |
|-----------|------------------------------------|-----------|----------------------------|-----------|------------|
| Site No.  | 9                                  | Recorder: | Dave Havill & Andrew Craig | Day/Date: | 13.06.2012 |
| Purpose   | Regional Ecosystem & Remnant Check |           |                            |           |            |
| Locality: | Disney (Isaac Regional Council)    |           |                            |           |            |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   |               |                 | ABSENT                       |
| T2   |               |                 | ABSENT                       |
| T3   |               | -               |                              |
| S1   |               |                 | ABSENT                       |
| S2   |               | -               |                              |
| G  | 1             | 0 – 1.5         | Dense                        |
| Structural formation including height: (estimated) |               |                 |                              |
| Open Paddock                                       |               |                 |                              |
| Ecologically dominant layer:                       | Ground        |                 |                              |

### Summary:

|  |             |
|--|-------------|
| Minimum height of plants included in the transect table: | 0 m         |
| Intercept of EDL 0 - 50m:                                | 0 m         |
| Intercept of EDL 50 -100m:                               | 0 m         |
| Measured crown cover %                                   | 0%          |
| Structural formation                                     | Non remnant |

### Conclusions/notes:

- No vegetation observed within mapped remnant polygon
- Ground layer dominated by *Pennisetum ciliare* (Buffel Grass) within open patches.



**Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)**

| Str. | Rel. dom. | Scientific Name                 | Common Name             |
|------|-----------|---------------------------------|-------------------------|
| G    | D         | <i>Pennisetum ciliare</i>       | Buffel Grass            |
|      | A         | <i>Chloris virgata</i>          | Feathertop Rhodes Grass |
|      | A         | <i>Leptochloa digitata</i>      | Umbrella Canegrass      |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium Weed         |
|      | S         | <i>Capparis lassiantha</i>      | Wait-A-While            |
|      | S         | <i>Carrisa ovata</i>            | Currant Bush            |
|      | A         | <i>Dichanthium sericeum</i>     | Bluegrass               |
|      | A         | <i>Aristida latifolia</i>       | Feathertop Wiregrass    |



## Disney Holding - Quaternary Site IO

|                  |                                    |                  |                            |                  |            |
|------------------|------------------------------------|------------------|----------------------------|------------------|------------|
| <b>Site No.</b>  | 10                                 | <b>Recorder:</b> | Dave Havill & Andrew Craig | <b>Day/Date:</b> | 13.06.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                            |                  |            |
| <b>Locality:</b> | Disney (Isaac Regional Council)    |                  |                            |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  |               |                 | ABSENT                       |
| T2  |               |                 | ABSENT                       |
| T3  |               | -               |                              |
| S1  |               |                 | ABSENT                       |
| S2  |               | -               |                              |
| G   | 1             | 0 – 1.5         | Dense                        |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Open Paddock  |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       | Ground        |                 |                              |

### Summary:

|  |             |
|--|-------------|
| Minimum height of plants included in the transect table: | 0 m         |
| Intercept of EDL 0 - 50m:                                | 0 m         |
| Intercept of EDL 50 -100m:                               | 0 m         |
| Measured crown cover %                                   | 0%          |
| Structural formation                                     | Non remnant |

### Conclusions/notes:

- No vegetation observed within mapped remnant polygon
- Ground layer dominated by *Pennisetum ciliare* (Buffel Grass) within open patches.



**Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)**

| Str. | Rel. dom. | Scientific Name                 | Common Name        |
|------|-----------|---------------------------------|--------------------|
| G    | D         | <i>Pennisetum ciliare</i>       | Buffel Grass       |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium Weed    |
|      | A         | <i>Panicum decompositum</i>     | Native Millet      |
|      | A         | <i>Dichanthium sericeum</i>     | Bluegrass          |
|      | A         | <i>Leptochloa digitata</i>      | Umbrella Canegrass |
|      | S         | <i>Acacia excelsa</i>           |                    |
|      | S         | <i>Acacia decora</i>            | Pretty Wattle      |
|      | A         | <i>Bothrichloa bladhii</i>      |                    |



## Disney Holding - Quaternary Site II

|                  |                                    |                  |                            |                  |            |
|------------------|------------------------------------|------------------|----------------------------|------------------|------------|
| <b>Site No.</b>  | 11                                 | <b>Recorder:</b> | Dave Havill & Andrew Craig | <b>Day/Date:</b> | 13.06.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |                            |                  |            |
| <b>Locality:</b> | Disney (Isaac Regional Council)    |                  |                            |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  |               |                 | ABSENT                       |
| T2  |               |                 | ABSENT                       |
| T3  |               | -               |                              |
| S1  |               |                 | ABSENT                       |
| S2  |               | -               |                              |
| G   | 1             | 0 – 1.5         | Dense                        |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Open Paddock  |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       | Ground        |                 |                              |

### Summary:

|  |             |
|--|-------------|
| Minimum height of plants included in the transect table: | 0 m         |
| Intercept of EDL 0 - 50m:                                | 0 m         |
| Intercept of EDL 50 -100m:                               | 0 m         |
| Measured crown cover %                                   | 0%          |
| Structural formation                                     | Non remnant |

### Conclusions/notes:

- No vegetation observed within mapped remnant polygon
- Ground layer dominated by *Pennisetum ciliare* (Buffel Grass) within open patches.



**Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)**

| Str. | Rel. dom. | Scientific Name                 | Common Name        |
|------|-----------|---------------------------------|--------------------|
| G    | D         | <i>Pennisetum ciliare</i>       | Buffel Grass       |
|      | A         | <i>Leptochloa digitata</i>      | Umbrella Canegrass |
|      | S         | <i>Acacia harpophylla</i>       | Brigalow           |
|      | A         | <i>Sporobolus caroli</i>        | Fairy Grass        |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium Weed    |
|      | A         | <i>Dichanthium sericeum</i>     | Bluegrass          |
|      | A         | <i>Sida cordifolia</i>          | Flannel Weed       |
|      | A         | <i>Bothrichloa bladhii</i>      |                    |



# Appendix G

Avon Vegetation Transects



## Avon - Vegetation Transect I

|                  |  |                  |              |                  |           |
|------------------|--|------------------|--------------|------------------|-----------|
| <b>Site No.</b>  | 1  | <b>Recorder:</b> | Andrew Craig | <b>Day/Date:</b> | 16/8/2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check           |                  |              |                  |           |
| <b>Locality:</b> | Avon Downs, Lot 10 on BL49 (RH & RJ Simmons) |                  |              |                  |           |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   | 10m           | 8-12m           | D                            |
| T2   | 5m            | 4-6m            | M                            |
| T3   |               |                 |                              |
| S1   | 1.5m          | 1-2m            | S                            |
| S2   |               |                 |                              |
| G  | 0.5m          | 0-1m            | D                            |
| Structural formation including height: (estimated) |               |                 |                              |
| Open Forest  |               |                 |                              |
| Ecologically dominant layer:                       |               | T1              |                              |

### Transect – Crown Cover Measured (Transect intercept method)

| GPS coordinates:   |             | Datum: |   |   | MGA 55        | Transect length: | 100m |  |
|--------------------|-------------|--------|---|---|---------------|------------------|------|--|
| <b>Start point</b> | <b>Zone</b> | 5      | 5 | E | 147° 9'5.53"E | N -21°51'31.50"S |      |  |
| <b>End point</b>   | <b>Zone</b> | 5      | 5 | E | 147° 9'3.82"E | N -21°51'31.10"S |      |  |

|                              |           |      |    | COVER %                 |      |     |     |      |    |    |    |    |    |    |   |  |
|------------------------------|-----------|------|----|-------------------------|------|-----|-----|------|----|----|----|----|----|----|---|--|
|                              |           |      |    | Assessment Area. 50 (m) |      |     |     |      |    |    |    |    |    |    |   |  |
| Species                      | Cr. Den % | Misc | ID | E 1                     | T1   | T2  | T 3 | S1   | S2 | G1 | G2 | G3 | G4 | G5 | G |  |
| <i>Acacia harpophylla</i>    |           |      |    |                         | 47.6 | 7.6 |     | 1.8  |    |    |    |    |    |    |   |  |
| <i>Acacia shirleyii</i>      |           |      |    |                         | 13.6 | 1.2 |     |      |    |    |    |    |    |    |   |  |
| <i>Terminalia oblongata</i>  |           |      |    |                         |      |     |     | -    |    |    |    |    |    |    |   |  |
| <i>Acacia decora</i>         |           |      |    |                         |      |     |     | 14.4 |    |    |    |    |    |    |   |  |
| <i>Eremophila mitchellii</i> |           |      |    |                         |      |     |     | -    |    |    |    |    |    |    |   |  |
| <i>Carissa ovata</i>         |           |      |    |                         |      |     |     | 3.2  |    |    |    |    |    |    |   |  |



|                             |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |
|-----------------------------|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|
| <i>Pennisetum ciliare</i>   |  |  |  |  |  |  |  |  |  | 55  |  |  |  |  |  |  |  |
| <i>Enneapogon nigricans</i> |  |  |  |  |  |  |  |  |  | 3.0 |  |  |  |  |  |  |  |
| <i>Enchylaena tomentosa</i> |  |  |  |  |  |  |  |  |  | 4.6 |  |  |  |  |  |  |  |
| <i>Aristida latifolia</i>   |  |  |  |  |  |  |  |  |  | 15  |  |  |  |  |  |  |  |
| <i>Themeda triandra</i>     |  |  |  |  |  |  |  |  |  | 2.6 |  |  |  |  |  |  |  |
| Dead                        |  |  |  |  |  |  |  |  |  | -   |  |  |  |  |  |  |  |
| Litter                      |  |  |  |  |  |  |  |  |  | -   |  |  |  |  |  |  |  |
| Rock                        |  |  |  |  |  |  |  |  |  | -   |  |  |  |  |  |  |  |
| Bare Ground                 |  |  |  |  |  |  |  |  |  | 16  |  |  |  |  |  |  |  |
| Cryptophytes                |  |  |  |  |  |  |  |  |  | -   |  |  |  |  |  |  |  |

#### Summary:

|  |             |
|--|-------------|
| Minimum height of plants included in the transect table: | 8m          |
| Intercept of EDL 0 - 50m:                                | 30.6m       |
| Measured crown cover % of EDL 0 - 100m:                  | 61.2%       |
| Structural formation                                     | Open Forest |

#### Conclusions/notes:

- Vegetation structure and species composition representative of 11.4.9 with species of 11.7.2 mixed within the remnant vegetation. RE 11.5.3 absent.
- Area dominated by *Pennisetum ciliare* (Buffel Grass)
- Heavily grazed
- No fauna observed
- No hollow logs/fallen timber observed

#### Plant Species (*D* – Dominant; *C* – codominant; *A* – associated; *S* – Suppressed)

| Str. | Rel. dom. | Scientific Name              | Common Name      |
|------|-----------|------------------------------|------------------|
| T1   | D         | <i>Acacia harpophylla</i>    | Brigalow         |
|      | CD        | <i>Acacia shirleyii</i>      | Lancewood        |
| T2   | D         | <i>Acacia harpophylla</i>    | Brigalow         |
|      | CD        | <i>Acacia shirleyii</i>      | Lancewood        |
| S    | A         | <i>Terminalia oblongata</i>  | Yellow Wood      |
|      | O         | <i>Acacia decora</i>         | Pretty Wattle    |
|      | A         | <i>Eremophila mitchellii</i> | False Sandlewood |
|      | A         | <i>Carissa ovata</i>         | Currant Bush     |



|   |   |                             |                      |
|---|---|-----------------------------|----------------------|
|   |   |                             |                      |
| G | D | <i>Pennisetum ciliare</i>   | Buffel Grass         |
|   | A | <i>Enneapogon nigricans</i> | Nigger Heads         |
|   | A | <i>Enchylaena tomentosa</i> | Ruby Saltbush        |
|   | O | <i>Aristida latifolia</i>   | Feathertop Wiregrass |
|   | A | <i>Themeda triandra</i>     | Kangaroo Grass       |



## Avon - Vegetation Transect 2

|                  |  |                  |              |                  |           |
|------------------|--|------------------|--------------|------------------|-----------|
| <b>Site No.</b>  | 2  | <b>Recorder:</b> | Andrew Craig | <b>Day/Date:</b> | 16/8/2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check           |                  |              |                  |           |
| <b>Locality:</b> | Avon Downs, Lot 10 on BL49 (RH & RJ Simmons) |                  |              |                  |           |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               | -               |                              |
| T1   | 10m           | 8-12m           | D                            |
| T2   | 5m            | 4-6m            | M                            |
| T3   |               |                 |                              |
| S1   | 1.5m          | 1-2m            | S                            |
| S2   |               |                 |                              |
| G  | 0.5m          | 0-1m            | D                            |
| Structural formation including height: (estimated) |               |                 |                              |
| Woodland to Open Forest 51.2%CC                    |               |                 |                              |
| Ecologically dominant layer:                       |               | T1              |                              |

### Transect – Crown Cover Measured (Transect intercept method)

| GPS coordinates:             |             | Datum: |    |   | MGA 55        | Transect length: |                 | 50m |    |      |    |    |    |    |   |
|------------------------------|-------------|--------|----|---|---------------|------------------|-----------------|-----|----|------|----|----|----|----|---|
| <b>Start point</b>           | <b>Zone</b> | 5      | 5  | E | 147° 9'23.80" | N                | E-21°51'37.06"S |     |    |      |    |    |    |    |   |
| <b>End point</b>             | <b>Zone</b> | 5      | 5  | E | 147° 9'22.16" | M                | E-21°51'36.59"S |     |    |      |    |    |    |    |   |
| COVER %                      |             |        |    |   |               |                  |                 |     |    |      |    |    |    |    |   |
| Assessment Area. 50 (m)      |             |        |    |   |               |                  |                 |     |    |      |    |    |    |    |   |
| Species                      | Cr. Den %   | Misc   | ID | E | T1            | T2               | T3              | S1  | S2 | G1   | G2 | G3 | G4 | G5 | G |
| <i>Acacia harpophylla</i>    |             |        |    |   | 51.2          | 6.8              |                 |     |    |      |    |    |    |    |   |
| <i>Terminalia oblongata</i>  |             |        |    |   |               |                  |                 | 1.6 |    |      |    |    |    |    |   |
| <i>Eremophila mitchellii</i> |             |        |    |   |               |                  |                 | 3.4 |    |      |    |    |    |    |   |
| <i>Carissa ovata</i>         |             |        |    |   |               |                  |                 |     |    |      |    |    |    |    |   |
| <i>Pennisetum ciliare</i>    |             |        |    |   |               |                  |                 |     |    | 60.2 |    |    |    |    |   |
| <i>Enneapogon nigricans</i>  |             |        |    |   |               |                  |                 |     |    | 21.2 |    |    |    |    |   |
| <i>Enchylaena tomentosa</i>  |             |        |    |   |               |                  |                 |     |    | -    |    |    |    |    |   |



|                               |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |
|-------------------------------|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|
| <i>Aristida latifolia</i>     |  |  |  |  |  |  |  |  |  | 2.6 |  |  |  |  |  |  |
| <i>Aristida caput-medusae</i> |  |  |  |  |  |  |  |  |  | 5.6 |  |  |  |  |  |  |
| Dead                          |  |  |  |  |  |  |  |  |  | -   |  |  |  |  |  |  |
| Litter                        |  |  |  |  |  |  |  |  |  | -   |  |  |  |  |  |  |
| Rock                          |  |  |  |  |  |  |  |  |  | -   |  |  |  |  |  |  |
| Bare Ground                   |  |  |  |  |  |  |  |  |  | 4.8 |  |  |  |  |  |  |
| Cryptophytes                  |  |  |  |  |  |  |  |  |  | -   |  |  |  |  |  |  |

#### Summary:

|  |                         |
|--|-------------------------|
| Minimum height of plants included in the transect table: | 8m                      |
| Intercept of EDL 0 - 50m:                                | 25.6m                   |
| Measured crown cover % of EDL 0 - 100m:                  | 51.2%                   |
| Structural formation                                     | Woodland to Open Forest |

#### Conclusions/notes:

- Vegetation structure and species composition consistent with RE 11.4.9
- Area dominated by *Pennisetum ciliare* (Buffel Grass)
- Heavily grazed
- No fauna observed
- No hollow logs/fallen timber observed



**Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)**

| Str. | Rel. dom. | Scientific Name               | Common Name          |
|------|-----------|-------------------------------|----------------------|
| T1   | D         | <i>Acacia harpophylla</i>     | Brigalow             |
| T2   | D         | <i>Acacia harpophylla</i>     | Brigalow             |
| S    | CD        | <i>Terminalia oblongata</i>   | Yellowwood           |
|      | CD        | <i>Eremophila mitchellii</i>  | False Sandlewood     |
|      | A         | <i>Carissa ovata</i>          | Currant Bush         |
| G    | D         | <i>Pennisetum ciliare</i>     | Buffel Grass         |
|      | A         | <i>Enneapogon nigricans</i>   | Niggerheads          |
|      | A         | <i>Enchylaena tomentosa</i>   | Ruby Saltbush        |
|      | A         | <i>Aristida latifolia</i>     | Feathertop Wiregrass |
|      | A         | <i>Aristida caput-medusae</i> | Many headed          |



## Avon - Vegetation Transect 3

|                  |  |                  |              |                  |           |
|------------------|--|------------------|--------------|------------------|-----------|
| <b>Site No.</b>  | 3  | <b>Recorder:</b> | David Havill | <b>Day/Date:</b> | 16/8/2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check           |                  |              |                  |           |
| <b>Locality:</b> | Avon Downs, Lot 10 on BL49 (RH & RJ Simmons) |                  |              |                  |           |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               |                 |                              |
| T1   | 10m           | 8 – 12m         | M                            |
| T2   | 5 m           | 3 – 7m          | M                            |
| T3   |               |                 |                              |
| S1   | 1.8m          | 1 – 3m          | S                            |
| S2   |               |                 |                              |
| G  | 0.5m          | 0 – 1m          | D                            |
| Structural formation including height: (estimated) |               |                 |                              |
| Open Forest to Woodland                            |               |                 |                              |
| Ecologically dominant layer:                       | T1            |                 |                              |



**Transect – Crown Cover Measured (Transect intercept method)**

| Start point           | Zone      | 5    | 5  | E                       | 516716.35 |    |    | N   | 7582610.73 |      |    |    |    |    |   |
|-----------------------|-----------|------|----|-------------------------|-----------|----|----|-----|------------|------|----|----|----|----|---|
| End point             | Zone      | 5    | 5  | E                       | 516707.68 |    |    | N   | 7582567.87 |      |    |    |    |    |   |
|                       |           |      |    | COVER %                 |           |    |    |     |            |      |    |    |    |    |   |
|                       |           |      |    | Assessment Area. 50 (m) |           |    |    |     |            |      |    |    |    |    |   |
| Species               | Cr. Den % | Misc | ID | E1                      | T1        | T2 | T3 | S1  | S2         | G1   | G2 | G3 | G4 | G5 | G |
| Acacia harpophylla    |           |      |    |                         | 45.6      |    |    |     |            |      |    |    |    |    |   |
| Acacia cambagei       |           |      |    |                         | 14.2      |    |    |     |            |      |    |    |    |    |   |
| Eremophila mitchellii |           |      |    |                         |           |    |    | 8.6 |            |      |    |    |    |    |   |
| Pennisetum ciliare    |           |      |    |                         |           |    |    |     |            | 22.2 |    |    |    |    |   |
| Sporobolus caroli     |           |      |    |                         |           |    |    |     |            | 12.4 |    |    |    |    |   |
| Bothriochloa bladhii  |           |      |    |                         |           |    |    |     |            | 0.40 |    |    |    |    |   |
| Enchylaena tomentosa  |           |      |    |                         |           |    |    |     |            | 0.48 |    |    |    |    |   |
| Dead                  |           |      |    |                         |           |    |    |     |            | 0    |    |    |    |    |   |
| Litter                |           |      |    |                         |           |    |    |     |            | 0    |    |    |    |    |   |
| Rock                  |           |      |    |                         |           |    |    |     |            | 0    |    |    |    |    |   |
| Bare Ground           |           |      |    |                         |           |    |    |     |            | 41.0 |    |    |    |    |   |
| Cryptophytes          |           |      |    |                         |           |    |    |     |            | 0    |    |    |    |    |   |

**Summary:**

|   |                         |
|---|-------------------------|
| Minimum height of plants (T1) included in the transect table: | 8m                      |
| Intercept of EDL 0 - 50m:                                     | 29.9 m                  |
| Measured crown cover % of EDL 0 -100m:                        | 59.8 %                  |
| Structural formation  | Open Forest to Woodland |

**Conclusions/notes:**

- Vegetation structure and species composition consistent with RE 11.4.9
- Area dominated by *Acacia harpophylla* (Brigalow)
- Heavily grazed
- Avi fauna observed
- Dead fall present including hollow logs/fallen timber observed

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**



| Str. | Rel. dom. | Scientific Name              | Common Name       |
|------|-----------|------------------------------|-------------------|
| T1   | D         | <i>Acacia harpophylla</i>    | Brigalow          |
|      | C         | <i>Acacia cambagei</i>       | Stinking Wattle   |
| T2   | D         | <i>Acacia harpophylla</i>    | Brigalow          |
|      | A         | <i>Terminalia oblongata</i>  | Yellowwood        |
| S    | D         | <i>Eremophila mitchellii</i> | False Sandalwood  |
|      | A         | <i>Carissa ovata</i>         | Currant Bush      |
| G    | D         | <i>Pennisetum ciliare</i>    | Buffel Grass      |
|      | A         | <i>Sporobolus caroli</i>     | Fairy Grass       |
|      | A         | <i>Enchylaena tomentosa</i>  | Ruby Saltbush     |
|      | A         | <i>Bothriochloa bladhii</i>  | Forest Blue Grass |
|      | A         | <i>Opuntia tomentosa</i>     | Velvety Tree Pear |



## Avon - Vegetation Transect 4

|                  |  |                  |              |                  |           |
|------------------|--|------------------|--------------|------------------|-----------|
| <b>Site No.</b>  | 4  | <b>Recorder:</b> | David Havill | <b>Day/Date:</b> | 16/8/2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check           |                  |              |                  |           |
| <b>Locality:</b> | Avon Downs, Lot 10 on BL49 (RH & RJ Simmons) |                  |              |                  |           |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               |                 |                              |
| T1   | 12 m          | 5 – 14m         | M                            |
| T2   | 4 m           | 3 – 5m          | VS                           |
| T3   |               |                 |                              |
| S1   | 1.2 m         | 1 – 2m          | VS                           |
| S2   |               |                 |                              |
| G  | 0.5 m         | 0 – 1m          | D                            |
| Structural formation including height: (estimated) |               |                 |                              |
| Woodland   |               |                 |                              |
| Ecologically dominant layer:                       |               | T1              |                              |

### Transect – Crown Cover Measured (Transect intercept method)

| Start point              | Zone      | 5    | 5  | E                        | 524453.17 |    |    | N   | 7581073.31 |      |    |    |    |    |   |
|--------------------------|-----------|------|----|--------------------------|-----------|----|----|-----|------------|------|----|----|----|----|---|
| End point                | Zone      | 5    | 5  | E                        | 524549.61 |    |    | N   | 7581095.41 |      |    |    |    |    |   |
|                          |           |      |    | COVER %                  |           |    |    |     |            |      |    |    |    |    |   |
|                          |           |      |    | Assessment Area. 100 (m) |           |    |    |     |            |      |    |    |    |    |   |
| Species                  | Cr. Den % | Misc | ID | E1                       | T1        | T2 | T3 | S1  | S2         | G1   | G2 | G3 | G4 | G5 | G |
| Acacia harpophylla       |           |      |    |                          | 3.5       |    |    | 1.1 |            |      |    |    |    |    |   |
| Terminalia oblongata     |           |      |    |                          | 2.7       |    |    |     |            |      |    |    |    |    |   |
| Eucalyptus coolabah      |           |      |    |                          | 37.6      |    |    |     |            |      |    |    |    |    |   |
| Eremophila bignoniiflora |           |      |    |                          |           |    |    |     |            |      |    |    |    |    |   |
| Lomandra leucocephala    |           |      |    |                          |           |    |    |     |            | 87.4 |    |    |    |    |   |
| Alternanthera            |           |      |    |                          |           |    |    |     |            | 6.0  |    |    |    |    |   |



|                    |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |
|--------------------|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|
| <i>denticulata</i> |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |
|                    |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |
| Dead               |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |
| Litter             |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |
| Rock               |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |
| Bare Ground        |  |  |  |  |  |  |  |  |  | 6.6 |  |  |  |  |  |
| Cryptophytes       |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |

#### Summary:

|   |          |        |
|---|----------|--------|
| Minimum height of plants (T1) included in the transect table: | 6.5m     |        |
| Intercept of EDL 0 - 50m:                                     |          | 21.9 m |
| Intercept of EDL 50 - 100m:                                   |          | 21.9m  |
| Measured crown cover % of EDL 0 -100m:                        |          | 43.8 % |
| Structural formation  | Woodland |        |

#### Conclusions/notes:

- Vegetation structure and species composition consistent with RE 11.3.3
- One small patch of *Acacia harpophylla* (Brigalow) on western edge of mapped polygon more likely remnants of the cleared adjacent regional ecosystem. No other patches of *Acacia harpophylla* noted within the vicinity.
- Very little weed cover throughout drainage line.
- Canopy trees contain hollows and nesting features.



## Avon - Vegetation Transect 5

|                  |  |                  |              |                  |           |
|------------------|--|------------------|--------------|------------------|-----------|
| <b>Site No.</b>  | 5  | <b>Recorder:</b> | David Havill | <b>Day/Date:</b> | 16/8/2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check           |                  |              |                  |           |
| <b>Locality:</b> | Avon Downs, Lot 10 on BL49 (RH & RJ Simmons) |                  |              |                  |           |

### Vegetation Structure

| Stratum  | Median height | Height interval | Est. cover density (D,M,S,V) |
|--|---------------|-----------------|------------------------------|
| E  |               |                 |                              |
| T1   | 12 m          | 4 – 11m         | M                            |
| T2   |               |                 |                              |
| T3   |               |                 |                              |
| S1   | 1.2 m         | 1 – 2m          | VS                           |
| S2   |               |                 |                              |
| G  | 0.5 m         | 0 – 1m          | D                            |
| Structural formation including height: (estimated) |               |                 |                              |
| Low Woodland                                       |               |                 |                              |
| Ecologically dominant layer:                       |               | T1              |                              |

### Transect – Crown Cover Measured (Transect intercept method)

| Start point          | Zone      | 5    | 5  | E                        | 524453.17 |    |    |    | N  | 7581073.31 |    |    |    |    |   |  |
|----------------------|-----------|------|----|--------------------------|-----------|----|----|----|----|------------|----|----|----|----|---|--|
| End point            | Zone      | 5    | 5  | E                        | 524549.61 |    |    |    | N  | 7581095.41 |    |    |    |    |   |  |
|                      |           |      |    | COVER %                  |           |    |    |    |    |            |    |    |    |    |   |  |
|                      |           |      |    | Assessment Area. 100 (m) |           |    |    |    |    |            |    |    |    |    |   |  |
| Species              | Cr. Den % | Misc | ID | E1                       | T1        | T2 | T3 | S1 | S2 | G1         | G2 | G3 | G4 | G5 | G |  |
| Acacia harpophylla   |           |      |    | 19.7                     |           |    |    |    |    |            |    |    |    |    |   |  |
| Acacia pendula       |           |      |    | 2                        |           |    |    |    |    |            |    |    |    |    |   |  |
| Acacia excelsa       |           |      |    | 8.1                      |           |    |    |    |    |            |    |    |    |    |   |  |
| Lysiphyllum carronii |           |      |    | 2.8                      |           |    |    |    |    |            |    |    |    |    |   |  |
| Terminalia oblongata |           |      |    |                          |           |    |    |    |    |            |    |    |    |    |   |  |
| Pennisetum ciliare   |           |      |    |                          |           |    |    |    |    | 35.0       |    |    |    |    |   |  |



|                                 |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |
|---------------------------------|--|--|--|--|--|--|--|--|--|--|------|--|--|--|--|--|
| <i>Parthenium hysterophorus</i> |  |  |  |  |  |  |  |  |  |  | 3.0  |  |  |  |  |  |
| <i>Dichanthium sericeum</i>     |  |  |  |  |  |  |  |  |  |  | 12.2 |  |  |  |  |  |
| <i>Melinis repens</i>           |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |
| <i>Sporobolus caroli</i>        |  |  |  |  |  |  |  |  |  |  | 4.0  |  |  |  |  |  |
| <i>Sida cordifolia</i>          |  |  |  |  |  |  |  |  |  |  | 0.18 |  |  |  |  |  |
| <i>Panicum decompositum</i>     |  |  |  |  |  |  |  |  |  |  | 16.6 |  |  |  |  |  |
| <i>Lomandra leucocephala</i>    |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |
| <i>Owenia acidula</i>           |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |
| <i>Capparis lasiantha</i>       |  |  |  |  |  |  |  |  |  |  | 6.0  |  |  |  |  |  |
|                                 |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |
| Dead                            |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |
| Litter                          |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |
| Rock                            |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |
| Bare Ground                     |  |  |  |  |  |  |  |  |  |  | 14.4 |  |  |  |  |  |
| Cryptophytes                    |  |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |

#### Summary:

|   |              |        |
|---|--------------|--------|
| Minimum height of plants (T1) included in the transect table: | 6.5m         |        |
| Intercept of EDL 0 - 50m:                                     |              | 29.3 m |
| Intercept of EDL 50 - 100m:                                   |              | 3.3 m  |
| Measured crown cover % of EDL 0 -100m:                        |              | 32.6 % |
| Structural formation  | Low Woodland |        |

#### Conclusions/notes:

- Vegetation structure and species composition consistent with RE 11.4.11
- A number of native grass species were observed within the vicinity of the vegetation transect.
- Site is highly disturbed due to cattle grazing and weed invasion within the ground layer.

#### Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)

| Str. | Rel. dom. | Scientific Name           | Common Name |
|------|-----------|---------------------------|-------------|
| T1   | D         | <i>Acacia harpophylla</i> | Brigalow    |



|   |   |                                 |                       |
|---|---|---------------------------------|-----------------------|
|   | A | <i>Acacia pendula</i>           | Myall                 |
|   | O | <i>Lysiphyllum carronii</i>     | Red Bauhinia          |
|   | O | <i>Terminalia oblongata</i>     | Yellowwood            |
| G | D | <i>Pennisetum ciliare</i>       | Buffel Grass          |
|   | A | <i>Parthenium hysterophorus</i> | Parthenium Weed       |
|   | A | <i>Dichanthium sericeum</i>     | Queensland Bluegrass  |
|   | A | <i>Melinis repens</i>           | Red Natal Grass       |
|   | A | <i>Sporobolus caroli</i>        | Fairy Grass           |
|   | A | <i>Sida cordifolia</i>          | Flannel Weed          |
|   | A | <i>Panicum decompositum</i>     | Native Millet         |
|   | A | <i>Lomandra sp.</i>             | Woolly-headed Matrush |
|   | A | <i>Owenia acidula</i>           | Emu Bush              |
|   | A | <i>Capparis lasiantha</i>       | Wait-a-while          |



## Avon - Vegetation Transect 6

|                  |  |                  |              |                  |            |
|------------------|--|------------------|--------------|------------------|------------|
| <b>Site No.</b>  | 6  | <b>Recorder:</b> | Andrew Craig | <b>Day/Date:</b> | 15.08.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check           |                  |              |                  |            |
| <b>Locality:</b> | Avon Downs, Lot 10 on BL49 (RH & RJ Simmons) |                  |              |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  | 12            | 10-14           | S                            |
| T2  | 6             | 4-8             | M                            |
| T3  |               |                 |                              |
| S1  | 2             | 1-3             | M                            |
| S2  |               |                 |                              |
| G   | 0.5           | 0-1             | D                            |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Woodland  |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       | T1            |                 |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                         |      |               |        |                         |               |                  |
|-------------------------|------|---------------|--------|-------------------------|---------------|------------------|
| <b>GPS coordinates:</b> |      | <b>Datum:</b> | MGA 55 | <b>Transect length:</b> | 100m          |                  |
| Start point             | Zone | 5             | 6      | E                       | 530749.72 m E | N 7579832.58 m S |
| End point               | Zone | 5             | 6      | E                       | 530550.81 m E | N 7579796.10 m S |



| Interval (metres) | Intercept | Str. | Height | Species                     | Common Name |
|-------------------|-----------|------|--------|-----------------------------|-------------|
| 0-1               | 1         | T2   | 4      | <i>Acacia harpophylla</i>   | Brigalow    |
| 3.4-4.8           | 1.4       | S    | 3      | <i>Acacia harpophylla</i>   | Brigalow    |
| 8.1-10.8          | 2.7       | T2   | 5      | <i>Acacia harpophylla</i>   | Brigalow    |
| 15.0-22.2         | 7.2       | T2   | 5      | <i>Acacia harpophylla</i>   | Brigalow    |
| 28.1-31           | 2.9       | T2   | 7      | <i>Acacia harpophylla</i>   | Brigalow    |
| 55.4-58           | 2.6       | T2   | 6      | <i>Acacia harpophylla</i>   | Brigalow    |
| 93.2-108          | 14.8      | T1   | 12     | <i>Eucalyptus coolabah</i>  | Coolabah    |
| 120.1-126.4       | 6.3       | T1   | 11     | <i>Eucalyptus coolabah</i>  | Coolabah    |
| 149.6-151.2       | 1.6       | T2   | 6      | <i>Terminalia oblongata</i> | Yellowwood  |
| 152.1-152.9       | 0.8       | S    | 3      | <i>Terminalia oblongata</i> | Yellowwood  |
| 160.9-161.2       | 0.3       | S    | 2      | <i>Terminalia oblongata</i> | Yellowwood  |
| 162.1-168         | 5.9       | T2   | 6      | <i>Acacia harpophylla</i>   | Brigalow    |
| 178.6-186.0       | 7.4       | T1   | 10     | <i>Acacia harpophylla</i>   | Brigalow    |
| 191-194.2         | 3.2       | T2   | 6      | <i>Acacia harpophylla</i>   | Brigalow    |

| Summary:   |                                   |  |
|--|-----------------------------------|--|
| Minimum height of plants included in the transect table:   | 9m                                |  |
| Intercept of EDL 0 - 100m:   | 6.8 m                             |  |
| Intercept of EDL 100 -200m:  | 7.2 m                             |  |
| Measured crown cover % of EDL 0 -200m:   | T1 14.25%<br>T2 13.55%<br>S 1.25% |  |
| Structural formation   | Open Woodland                     |  |
| Conclusions/notes:   |                                   |  |
| <ul style="list-style-type: none"><li>Vegetation structure and species composition is representative of RE 11.4.11</li></ul> |                                   |  |
| <ul style="list-style-type: none"><li><i>Acacia harpophylla</i> clumps range from 4-10m</li></ul>                            |                                   |  |



**Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)**

| Str. | Rel. dom. | Scientific Name                 | Common Name                           |
|------|-----------|---------------------------------|---------------------------------------|
| T1   | D         | <i>Eucalyptus coolabah</i>      | Coolabah                              |
|      | A         | <i>Acacia harpophylla</i>       | Brigalow                              |
|      |           |                                 |                                       |
| T2   | D         | <i>Acacia harpophylla</i>       | Brigalow                              |
|      | O         | <i>Terminalia oblongata</i>     | Yellowwood                            |
|      |           |                                 |                                       |
| S    | CD        | <i>Terminalia oblongata</i>     | Yellowwood                            |
|      | O         | <i>Geijera parviflora</i>       | Wilga                                 |
|      | A         | <i>Acacia harpophylla</i>       | Brigalow                              |
|      | CD        | <i>Carissa ovata</i>            | Currant Bush                          |
|      | O         | <i>Apophyllum anomomalum</i>    |                                       |
|      |           |                                 |                                       |
| G    | A         | <i>Panicum decompositum</i>     | Native Millet                         |
|      | A         | <i>Dichanthium sericeum</i>     | Bluegrass                             |
|      | D         | <i>Pennisetum dillare</i>       | Buffel Grass (Greater than 50% cover) |
|      | A         | <i>Aristida latifolia</i>       | Feathertop Wiregrass                  |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium                            |
|      | O         | <i>Tribulus micrococcus</i>     |                                       |
|      | A         | <i>Rhynchosia minima</i>        | Native Sensitive Plant                |
|      | O         | <i>Ipomoea lonchophylla</i>     |                                       |



## Avon - Vegetation Transect 7

|                  |  |                  |              |                  |            |
|------------------|--|------------------|--------------|------------------|------------|
| <b>Site No.</b>  | 7  | <b>Recorder:</b> | Andrew Craig | <b>Day/Date:</b> | 15.08.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check           |                  |              |                  |            |
| <b>Locality:</b> | Avon Downs, Lot 10 on BL49 (RH & RJ Simmons) |                  |              |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  | -             | -               | ABSENT                       |
| T2  | -             | -               | ABSENT                       |
| T3  |               |                 |                              |
| S1  | -             | -               | ABSENT                       |
| S2  |               |                 |                              |
| G   | -             | -               | D                            |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Grassland   |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       | G             |                 |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                         |      |               |        |                         |               |                  |
|-------------------------|------|---------------|--------|-------------------------|---------------|------------------|
| <b>GPS coordinates:</b> |      | <b>Datum:</b> | MGA 55 | <b>Transect length:</b> | 100m          |                  |
| Start point             | Zone | 5             | 6      | E                       | 535243.60 m E | N 7579002.73 m S |
| End point               | Zone | 5             | 6      | E                       | 535192.85 m E | N 7578971.01 m S |



| Interval (metres) | Intercept | Str. | Species                     | Common Name          |
|-------------------|-----------|------|-----------------------------|----------------------|
| 0-3.6             | 3.6       | G    | <i>Forb species</i>         |                      |
| 3.6-4.4           | 0.8       | G    | <i>Panicum decompositum</i> | Native Millet        |
| 4.4-6.0           | 1.6       | G    | <i>Bare</i>                 |                      |
| 6.0-8.0           | 2.0       | G    | <i>Pennisetum ciliare</i>   | Buffel Grass         |
| 8.0-14.0          | 6.0       | G    | <i>Forb Species</i>         |                      |
| 14.0-14.4         | 0.4       | G    | <i>Panicum decompositum</i> | Native Millet        |
| 14.4-15.9         | 1.5       | G    | <i>Bare</i>                 |                      |
| 15.9-17.0         | 1.1       | G    | <i>Panicum decompositum</i> | Native Millet        |
| 17.0-20.0         | 3.0       | G    | <i>Dichanthium sericeum</i> | Bluegrass            |
| 20.0-22.0         | 2.0       | G    | <i>Panicum decompositum</i> | Native Millet        |
| 22.0-27.6         | 5.6       | G    | <i>Aristida latifolia</i>   | Feathertop Wiregrass |
| 27.6-32.9         | 5.3       | G    | <i>Dichanthium sericeum</i> | Bluegrass            |
| 32.9-35.0         | 2.1       | G    | <i>Astrebla lappacea</i>    | Curly Mitchell Grass |
| 35.0-38.2         | 3.2       | G    | <i>Bare</i>                 |                      |
| 38.2-42.6         | 4.4       | G    | <i>Aristida latifolia</i>   | Feathertop Wiregrass |
| 42.6-45.3         | 2.7       | G    | <i>Dichanthium sericeum</i> | Bluegrass            |
| 45.3-56.0         | 10.7      | G    | <i>Pennisetum ciliare</i>   | Buffel Grass         |
| 56.0-67.8         | 11.8      | G    | <i>Dichanthium sericeum</i> | Bluegrass            |
| 67.8-81.2         | 13.4      | G    | <i>Astrebla lappacea</i>    | Curly Mitchell Grass |
| 81.2-82.6         | 1.4       | G    | <i>Bare</i>                 |                      |
| 82.6-88.7         | 6.1       | G    | <i>Forb Species</i>         |                      |
| 88.7-90.2         | 2.5       | G    | <i>Panicum decompositum</i> | Native Millet        |
| 90.2-93.7         | 3.7       | G    | <i>Dichanthium sericeum</i> | Bluegrass            |
| 93.7-94.1         | 0.4       | G    | <i>Bare</i>                 |                      |
| 94.1-97.2         | 3.1       | G    | <i>Pennisetum ciliare</i>   | Buffel Grass         |
| 97.2-100          | 2.8       | G    | <i>Dichanthium sericeum</i> | Bluegrass            |

Forb species consistent with those described for RE 11.4.11 and include *Abelmoschus ficulneus*, *Glycine latifolia*, *Rhynchosia minima*, *Hibiscus trionum*, *Ipomoea lonchophylla* and *Phyllanthus maderspatensis*.



**Summary:**

Structural formation

Grassland

**Conclusions/notes:**

- Vegetation structure and species composition representative of a native grassland community RE 11.4.11
- No T1, T2 or shrub layer species were observed within the transect area.
- *Acacia harpophylla* (Brigalow) was absent from the transect and therefore RE 11.4.9 was not observed within this area.
- Area heavily grazed.
- Black soil plains.

**Plant Species (*D – Dominant; C – codominant; A – associated; S – Suppressed*)**

| Str. | Rel. dom. | Scientific Name                 | Common Name            |
|------|-----------|---------------------------------|------------------------|
| T1   | -         |                                 | ABSENT                 |
| T2   | -         |                                 | ABSENT                 |
| S    | -         |                                 | ABSENT                 |
| G    | CD        | <i>Dichanthium sericeum</i>     | Bluegrass              |
|      | A         | <i>Astrelba lappacea</i>        | Curly Mitchell Grass   |
|      | A         | <i>Aristida latifolia</i>       | Featertop wiregrass    |
|      | CD        | <i>Panicum decompositum</i>     | Native Millet          |
|      | A         | <i>Pennisetum ciliare</i>       | Buffel Grass           |
|      | A         | <i>Abelmoschus ficulneus</i>    |                        |
|      | A         | <i>Aristida leptopoda</i>       | White Speargrass       |
|      | A         | <i>Bothrichloa erianthoides</i> | Satintop               |
|      | O         | <i>Rhynchosia minima</i>        | Native Sensitive Plant |
|      | A         | <i>Ipomoea lonchophylla</i>     |                        |
|      | A         | <i>Glycine latifolia</i>        |                        |
|      | O         | <i>Hibiscus trionum</i>         |                        |
|      | A         | <i>Tribulus micrococcus</i>     |                        |
|      | A         | <i>Parthenium hysterophorus</i> | Parthenium             |



## Avon - Vegetation Transect 8

|                  |  |                  |              |                  |            |
|------------------|--|------------------|--------------|------------------|------------|
| <b>Site No.</b>  | 8  | <b>Recorder:</b> | Andrew Craig | <b>Day/Date:</b> | 15.08.2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check           |                  |              |                  |            |
| <b>Locality:</b> | Avon Downs, Lot 10 on BL49 (RH & RJ Simmons) |                  |              |                  |            |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  | 10m           | 8-12m           | S                            |
| T2  | -             | -               | ABSENT                       |
| T3  |               |                 |                              |
| S1  | 3m            | 2-4m            | VS                           |
| S2  |               |                 |                              |
| G   | 0.5m          | 0-1m            | D                            |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Grassland   |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       |               | Ground          |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                         |      |               |        |                         |               |                  |
|-------------------------|------|---------------|--------|-------------------------|---------------|------------------|
| <b>GPS coordinates:</b> |      | <b>Datum:</b> | MGA 55 | <b>Transect length:</b> | 100m          |                  |
| Start point             | Zone | 5             | 6      | E                       | 539211.77 m E | N 7578254.74 m S |
| End point               | Zone | 5             | 6      | E                       | 539110.17 m E | N 7578275.48 m S |

| Interval (metres) | Intercept | Str. | Height | Species                    | Common Name |
|-------------------|-----------|------|--------|----------------------------|-------------|
| 4.0-12.2          | 8.2m      | T1   | 11     | <i>Eucalyptus coolabah</i> | Coolabah    |
| 93.0-100          | 7.0       | T1   | 9      | <i>Eucalyptus coolabah</i> | Coolabah    |

### Summary:

|  |      |
|--|------|
| Minimum height of plants included in the transect table: | 8m   |
| Intercept of EDL 0 - 50m:                                | 8.2m |
| Intercept of EDL 50 - 100m:                              | 7.0m |



|   |          |
|---|----------|
| Measured crown cover % of EDL 0 -100m:  | 30.4%    |
| Structural formation  | Woodland |
| <b>Conclusions/notes:</b>   |          |
| <ul style="list-style-type: none"> <li>Area heavily grazed</li> <li><i>Eucalyptus coolabah</i> in T1 layer with dominant native grassland in ground layer</li> <li>Vegetation structure and species composition consistent with RE 11.4.11.</li> <li><i>Acacia harpophylla</i> (Brigalow) absent from transect.</li> <li>No RE 11.4.9 observed within transect.</li> <li>Black soil flats.</li> </ul> |          |

**Plant Species (*D* – Dominant; *C* – codominant; *A* – associated; *S* – Suppressed)**

| Str. | Rel. dom. | Scientific Name                 | Common Name          |
|------|-----------|---------------------------------|----------------------|
| T1   | D         | <i>Eucalyptus coolabah</i>      | Coolabah             |
|      |           |                                 |                      |
| T2   |           | ABSENT                          |                      |
|      |           |                                 |                      |
| S    | O         | <i>Terminalia oblongata</i>     | Yellowwood           |
|      | O         | <i>Apophyllum anomolamum</i>    |                      |
|      |           |                                 |                      |
| G    | CD        | <i>Panicum decompositum</i>     | Native Millet        |
|      | A         | <i>Dichanthium sericeum</i>     | Bluegrass            |
|      | CD        | <i>Astrebla lappacea</i>        | Curly Mitchell Grass |
|      | O         | <i>Parthenium hysterophorus</i> | Parthenium           |
|      | A         | <i>Pennisetum ciliare</i>       | Buffel Grass         |



## Avon - Quaternary Site I

| Dominance (D,CD,O,A) |          | Species                       |
|----------------------|----------|-------------------------------|
| T1 Layer             | D        | <i>Acacia harpophylla</i>     |
|                      | V.sparse | <i>Eucalyptus cambageana</i>  |
|                      |          |                               |
| T2 Layer             | D        | <i>Acacia harpophylla</i>     |
|                      | O        | <i>Terminalia oblongata</i>   |
|                      | O        | <i>Citrus glauca</i>          |
|                      |          |                               |
| Shrub Layer          | O        | <i>Eremophilla mitchellii</i> |
|                      | O        | <i>Carrisa ovata</i>          |
|                      |          |                               |
| Ground               | D        | <i>Pennisetum ciliare</i>     |
|                      | A        | <i>Aristida latifolia</i>     |
|                      | O        | <i>Enneapogon nigricans</i>   |
|                      | A        | <i>Aristida caput-medusae</i> |

### Notes :

- *Acacia harpophylla* (Brigalow) sdominant species.
- Very sparse distribution of *Eucalyptus cambageana*.
- Vegetation structure and species composition consistent with RE 11.4.9
- Heavily grazed.
- Brigalow comprised over 80% of ground cover.



## Avon - Quaternary Site 2

| Dominance (D,CD,O,A) |    | Species                      |
|----------------------|----|------------------------------|
| T1 Layer             | D  | <i>Acacia harpophylla</i>    |
|                      | O  | <i>Acacia shirleyii</i>      |
| T2 Layer             | CD | <i>Acacia harpophylla</i>    |
|                      | O  | <i>Terminalia oblongata</i>  |
|                      | CD | <i>Acacia shirleyii</i>      |
| Shrub Layer          | O  | <i>Carissa ovata</i>         |
|                      | CD | <i>Eremophila mitchellii</i> |
|                      | CD | <i>Terminalia oblongata</i>  |
|                      | A  | <i>Capparis glauca</i>       |
|                      | A  | <i>Opuntia tomentosa</i>     |
| Ground               | D  | <i>Pennisetum ciliare</i>    |
|                      | O  | <i>Enneapogon nigricans</i>  |
|                      | A  | <i>Aristida latifolia</i>    |
|                      | A  | <i>Enchylaena tomentosa</i>  |
|                      | O  | <i>Eriocereus martini</i>    |
|                      | A  | <i>Eragrostis parviflora</i> |
|                      |    |                              |

### Notes :

- Vegetation structure and species composition representative of a remnant vegetation community dominated by RE 11.4.9 with species from RE 11.7.2 distributed throughout.
- No species consistent with RE 11.5.3 observed within area.
- Area heavily grazed.
- *Pennisetum ciliare* (Buffel grass) dominates the understorey with *Eriocereus martini* observed as individual plants.
- *Pennisetum ciliare* (Buffel grass) greater than 50% of ground layer.
- T1 layer to 12m.



## Avon - Quaternary Site 3

| Dominance (D,CD,O,A) |    | Species                      |
|----------------------|----|------------------------------|
| T1 Layer             | D  | <i>Acacia harpophylla</i>    |
|                      | O  | <i>Acacia shirleyi</i>       |
| T2 Layer             | CD | <i>Acacia harpophylla</i>    |
|                      | O  | <i>Terminalia oblongata</i>  |
|                      | CD | <i>Acacia shirleyi</i>       |
| Shrub Layer          | O  | <i>Carissa ovata</i>         |
|                      | O  | <i>Eremophila mitchellii</i> |
| Ground               | D  | <i>Pennisetum ciliare</i>    |
|                      | O  | <i>Enneapogon nigricans</i>  |
|                      | A  | <i>Aristida latifolia</i>    |
|                      | A  | <i>Enchylaena tomentosa</i>  |
|                      | O  | <i>Eriocereus martini</i>    |
|                      | A  | <i>Eragrostis parviflora</i> |

### Notes :

- Vegetation structure and species composition representative of a remnant vegetation community dominated by RE 11.4.9 with species from RE 11.7.2 distributed throughout.
- No species consistent with RE 11.5.3 observed within area.
- Area heavily grazed.
- *Pennisetum ciliare* (Buffle grass) dominates the understorey with *Eriocereus martini* observed as individual plants.
- *Pennisetum ciliare* (Buffel grass) greater than 50% of ground layer.
- T1 layer to 12m.



## Avon - Quaternary Site 4

| Dominance (D,CD,O,A)  |   | Species                      |
|---|---|------------------------------|
| T1 Layer  | D | <i>Acacia harpophylla</i>    |
|   |   |                              |
| T2 Layer  | D | <i>Acacia harpophylla</i>    |
|   | A | <i>Terminalia oblongata</i>  |
|   |   |                              |
| Shrub Layer   | A | <i>Carissa ovata</i>         |
|   | O | <i>Eremophila mitchellii</i> |
|   |   |                              |
| Ground  | D | <i>Pennisetum ciliare</i>    |
|   | A | <i>Enneapogon nigricans</i>  |
|   |   | <i>Aristida latifolia</i>    |
| Notes : <ul style="list-style-type: none"> <li>- Vegetation structure and species composition consistent with RE 11.4.9.</li> <li>- <i>Acacia harpophylla</i> (Brigalow) dominant within T1 and T2 layer.</li> <li>- T1 height average 9m, range 8-12m.</li> <li>- Groundlayer dominated by <i>Pennisetum ciliare</i> (Buffel Grass) at densities greater than 50% cover.</li> <li>- Gilgai within the associated vegetation.</li> <li>- Heavily grazed.</li> </ul> |   |                              |



## Avon - Quaternary Site 5

| Dominance (D,CD,O,A) |   | Species                         |
|----------------------|---|---------------------------------|
| T1 Layer             | O | <i>Eucalyptus coolabah</i>      |
|                      |   |                                 |
| T2 Layer             | - | ABSENT                          |
|                      |   |                                 |
| Shrub Layer          | D | <i>Apophyllum anomalum</i>      |
|                      | O | <i>Acacia harpophylla</i>       |
| Ground               | D | <i>Dichanthium sericeum</i>     |
|                      | A | <i>Panicum decompositum</i>     |
|                      | O | <i>Pennisetum ciliare</i>       |
|                      | A | <i>Aristida latifolia</i>       |
|                      | O | <i>Parthenium hysterophorus</i> |
|                      | A | <i>Abelomschus ficulneus</i>    |
|                      | O | <i>Ipomoea lonchophylla</i>     |
|                      | O | <i>Cyperus bifax</i>            |
|                      | O | <i>Tribulus micrococcus</i>     |

### Notes :

- Grassland with isolated *Eucalyptus coolabah* to 9m.
- Vegetation structure and species composition consistent with RE 11.4.11.
- *Acacia harpophylla* (Brigalow) was observed in the quaternary site but height of *Acacia harpophylla* observed was consistent with that of RE 11.4.11 and not remnant RE 11.4.9. Height of *Acacia harpophylla* to 4m. Brigalow community absent from alignment.
- Area heavily grazed.
- Some weed infestation from *Pennisetum ciliare* (Buffel Grass) and *Parthenium hysterophorus* (Parthenium).



## Avon - Quaternary Site 6

| Dominance (D,CD,O,A) |    | Species                         |
|----------------------|----|---------------------------------|
| T1 Layer             | O  | <i>Eucalyptus coolabah</i>      |
|                      |    |                                 |
| T2 Layer             | -  | ABSENT                          |
|                      |    |                                 |
| Shrub Layer          | D  | <i>Apophyllum anomalum</i>      |
|                      | A  | <i>Acacia salicina</i>          |
| Ground               | CD | <i>Dichanthium sericeum</i>     |
|                      | CD | <i>Panicum decompositum</i>     |
|                      | O  | <i>Pennisetum ciliare</i>       |
|                      | A  | <i>Aristida latifolia</i>       |
|                      | A  | <i>Abelomschus ficulneus</i>    |
|                      | A  | <i>Parthenium hysterophorus</i> |
|                      | O  | <i>Astrelba lappacea</i>        |
|                      | O  | <i>Tribulus micrococcus</i>     |
|                      | O  | <i>Ipomoea lonchophylla</i>     |
|                      | O  | <i>Cyperus bifax</i>            |

### Notes :

- Grassland with isolated *Eucalyptus coolabah* to 9m.
- Vegetation structure and species composition consistent with RE 11.4.11.
- No *Acacia harpophylla* (Brigalow) was observed in the vicinity of the quaternary site. Brigalow community absent from alignment.
- Area heavily grazed.
- Some weed infestation from *Pennisetum ciliare* (Buffel Grass) and *Parthenium hysterophorus* (Parthenium).



## Avon - Quaternary Site 7

| Dominance (D,CD,O,A) |   | Species                         |
|----------------------|---|---------------------------------|
| T1 Layer             | O | <i>Eucalyptus coolabah</i>      |
|                      |   |                                 |
| T2 Layer             | - | ABSENT                          |
|                      |   |                                 |
| Shrub Layer          | O | <i>Apophyllum anomalum</i>      |
|                      |   |                                 |
| Ground               | D | <i>Dichanthium sericeum</i>     |
|                      | A | <i>Panicum decompositum</i>     |
|                      | O | <i>Pennisetum ciliare</i>       |
|                      | A | <i>Parthenium hysterophorus</i> |
|                      | O | <i>Astrela lappacea</i>         |
|                      | O | <i>Juncus sp.</i>               |
|                      | O | <i>Ipomoea lonchophylla</i>     |
|                      | O | <i>Cyperus bifax</i>            |
|                      | O | <i>Aristida latifolia</i>       |

### Notes :

- Grassland with isolated *Eucalyptus coolabah* to 9m.
- Vegetation structure and species composition consistent with RE 11.4.11.
- No *Acacia harpophylla* (Brigalow) was observed in the vicinity of the quaternary site. Brigalow community absent from alignment.
- Area heavily grazed.
- Some weed infestation from *Pennisetum ciliare* (Buffel Grass) and *Parthenium hysterophorus* (Parthenium).



## Avon - Quaternary Site 8

| Dominance (D,CD,O,A) |   | Species                            |
|----------------------|---|------------------------------------|
| T1 Layer             | O | <i>Eucalyptus coolabah</i>         |
|                      |   |                                    |
| T2 Layer             | - | ABSENT                             |
|                      |   |                                    |
| Shrub Layer          | O | <i>Apophyllum anomalum</i>         |
|                      |   |                                    |
| Ground               | D | <i>Dichanthium sericeum</i>        |
|                      | A | <i>Panicum decompositum</i>        |
|                      | O | <i>Pennisetum ciliare</i>          |
|                      | A | <i>Parthenium hysterophorus</i>    |
|                      | O | <i>Astrela lappacea</i>            |
|                      | A | <i>Phyllanthus maderaspatensis</i> |
|                      | O | <i>Juncus sp.</i>                  |
|                      | O | <i>Ipomoea lonchophylla</i>        |
|                      | O | <i>Aristida latifolia</i>          |

### Notes :

- Grassland with isolated *Eucalyptus coolabah* to 12m.
- Vegetation structure and species composition consistent with RE 11.4.11.
- No *Acacia harpophylla* (Brigalow) was observed in the vicinity of the quaternary site. Brigalow community absent from alignment.
- Area heavily grazed.
- Some weed infestation from *Pennisetum ciliare* (Buffel Grass) and *Parthenium hysterophorus* (Parthenium).



## Avon - Quaternary Site 9

| Dominance (D,CD,O,A) |   | Species                         |
|----------------------|---|---------------------------------|
| T1 Layer             | O | <i>Eucalyptus coolabah</i>      |
|                      |   |                                 |
| T2 Layer             | - | ABSENT                          |
|                      |   |                                 |
| Shrub Layer          | O | <i>Terminalia oblongata</i>     |
|                      | A | <i>Meuhlenbeckia florulenta</i> |
|                      | O | <i>Apophyllum anomalum</i>      |
|                      |   |                                 |
| Ground               | D | <i>Dichanthium sericeum</i>     |
|                      | A | <i>Panicum decompositum</i>     |
|                      | O | <i>Pennisetum ciliare</i>       |
|                      | A | <i>Parthenium hysterophorus</i> |
|                      | O | <i>Astrebla lappacea</i>        |
|                      | O | <i>Digitaria brownii</i>        |
|                      | O | <i>Ipomoea lonchophylla</i>     |
|                      | O | <i>Aristida latifolia</i>       |

### Notes :

- Grassland with isolated *Eucalyptus coolabah* to 12m.
- Vegetation structure and species composition consistent with RE 11.4.11.
- No *Acacia harpophylla* was observed in the vicinity of the quaternary site. Brigalow community absent from alignment.
- Area heavily grazed.
- Some weed infestation from *Pennisetum ciliare* (Buffel Grass) and *Parthenium hysterophorus* (Parthenium).
- 50% of the area contained bare earth.
- Black soils



## Avon - Quaternary Site IO

| Dominance (D,CD,O,A)  |   | Species                         |
|---|---|---------------------------------|
| T1 Layer  |   | ABSENT                          |
|   |   |                                 |
| T2 Layer  |   | ABSENT                          |
|   |   |                                 |
| Shrub Layer   | A | <i>Muehlenbeckia florulenta</i> |
|   |   |                                 |
| Ground  | D | <i>Dichanthium sericeum</i>     |
|   | O | <i>Astrebla lappacea</i>        |
|   | A | <i>Astrebla pectinata</i>       |
|   | O | <i>Panicum decompositum</i>     |
|   | A | <i>Pennisetum ciliare</i>       |
|   | A | <i>Parthenium hysterophorus</i> |
| Notes :   |   |                                 |
| <ul style="list-style-type: none"> <li>- Grassland to 1m</li> <li>- Vegetation structure and species composition consistent with RE 11.4.4.</li> <li>- Some <i>Pennisetum ciliare</i> (Buffel Grass) at low densities.</li> </ul> |   |                                 |



## Avon - Quaternary Site II

| Dominance (D,CD,O,A)  |   | Species                         |
|---|---|---------------------------------|
| T1 Layer  |   | ABSENT                          |
| T2 Layer  |   | ABSENT                          |
| Shrub Layer   | O | <i>Acacia cambagei</i>          |
|   | O | <i>Muehlenbeckia florulenta</i> |
| Ground  | D | <i>Panicum decompositum</i>     |
|   | A | <i>Pennisetum ciliare</i>       |
|   | O | <i>Aristida latifolia</i>       |
|   | A | <i>Astrebla sp.</i>             |
|   | A | <i>Corchorus trilocularis</i>   |
|   | A | <i>Glycine latifolia</i>        |
|   | O | <i>Hibiscus trionum</i>         |
|   | A | <i>Ipomoea lonchophylla</i>     |
| Notes :   |   |                                 |
| <ul style="list-style-type: none"> <li>- Tree layers absent.</li> <li>- Vegetation structure and species composition consistent with RE 11.4.11/11.4.6</li> <li>- Heavily grazed</li> </ul> |   |                                 |



# Appendix H

Talki Station Vegetation Transects



## Talki Station - Vegetation Transect I

|                  |                                    |                  |              |                  |           |
|------------------|------------------------------------|------------------|--------------|------------------|-----------|
| <b>Site No.</b>  | 1                                  | <b>Recorder:</b> | Andrew Craig | <b>Day/Date:</b> | 27/7/2012 |
| <b>Purpose</b>   | Regional Ecosystem & Remnant Check |                  |              |                  |           |
| <b>Locality:</b> | Talki Station                      |                  |              |                  |           |

### Vegetation Structure

| Stratum   | Median height | Height interval | Est. cover density (D,M,S,V) |
|---|---------------|-----------------|------------------------------|
| E   |               | -               |                              |
| T1  | 10            | 9-12            | M                            |
| T2  | 6             | 4-8             | V                            |
| T3  |               |                 |                              |
| S1  | 2             | 1-3             | V                            |
| S2  |               |                 |                              |
| G   | 0.5           | 0-1             | D                            |
| <b>Structural formation including height:</b> (estimated) |               |                 |                              |
| Woodland to 12m   |               |                 |                              |
| <b>Ecologically dominant layer:</b>                       |               | T1              |                              |

### Transect – Crown Cover Measured (Transect intercept method)

|                         |      |               |   |   |               |                         |                |  |
|-------------------------|------|---------------|---|---|---------------|-------------------------|----------------|--|
| <b>GPS coordinates:</b> |      | <b>Datum:</b> |   |   | MGA 55        | <b>Transect length:</b> | 100m           |  |
| Start point             | Zone | 5             | 6 | E | 527052.64 m E | N                       | 7580640.52 m S |  |
| End point               | Zone | 5             | 6 | E | 527000.77 m E | N                       | 7580726.89 m S |  |



| Interval (metres) | Intercept | Str. | Height | Species                    | Common Name |
|-------------------|-----------|------|--------|----------------------------|-------------|
| 16.4-18.8         | 2.4       | T1   | 10     | <i>Acacia cambagei</i>     | Gidgee      |
| 22.1-23.6         | 1.5       | T1   | 11     | <i>Acacia cambagei</i>     | Gidgee      |
| 33.2-37.1         | 3.9       | T1   | 10     | <i>Acacia cambagei</i>     | Gidgee      |
| 44.8-51.0         | 6.2       | T1   | 9.8    | <i>Acacia cambagei</i>     | Gidgee      |
| 51.0-55.3         | 4.3       | T1   | 9.6    | <i>Acacia cambagei</i>     | Gidgee      |
| 68.3-69.4         | 1.1       | S    | 1.5    | <i>Apophyllum anomalum</i> |             |
| 67.2-68.4         | 1.2       | T2   | 5      | <i>Acacia cambagei</i>     | Gidgee      |
| 72.1-73.4         | 1.3       | T2   | 5.5    | <i>Acacia cambagei</i>     | Gidgee      |
| 77.1-79.0         | 1.9       | T1   | 12     | <i>Acacia cambagei</i>     | Gidgee      |
| 99.2-100          | 0.8       | T1   | 10     | <i>Acacia cambagei</i>     | Gidgee      |

| Summary:  |          |  |
|---|----------|--|
| Minimum height of plants included in the transect table:  | 8m       |  |
| Intercept of EDL 0 - 50m:   | 13m      |  |
| Intercept of EDL 50 -100m:  | 8m       |  |
| Measured crown cover % of EDL 0 -100m:  | 21%      |  |
| Structural formation  | Woodland |  |
| Conclusions/notes:  |          |  |
| <ul style="list-style-type: none"><li>Species composition and vegetation structure consistent with RE 11.4.6. <i>Acacia cambagei</i> dominant species within T1 layer.</li><li>Heavily grazed</li><li>Dense <i>Pennisetum ciliare</i> (Buffel Grass) understorey (Approx 80%)</li></ul> |          |  |

**Plant Species (D – Dominant; C – codominant; A – associated; S – Suppressed)**

| Str. | Rel. dom. | Scientific Name             | Common Name    |
|------|-----------|-----------------------------|----------------|
| T1   | D         | <i>Acacia cambagei</i>      | Gidgee         |
|      |           |                             |                |
| T2   | O         | <i>Geijera parviflora</i>   | Wilga          |
|      | A         | <i>Acacia harpophylla</i>   | Brigalow       |
|      | C         | <i>Acacia cambagei</i>      | Gidgee         |
|      |           |                             |                |
| S    | O         | <i>Apophyllum anomalum</i>  | Tangled Lignum |
|      | A         | <i>Opuntia stricta</i>      | Tree Pear      |
|      | A         | <i>Terminalia oblongata</i> | Yellowwood     |



|   |   |                           |              |
|---|---|---------------------------|--------------|
|   | O | <i>Carrisa ovata</i>      | Currant Bush |
|   |   |                           |              |
| G | D | <i>Pennisetum ciliare</i> | Buffel Grass |

## Talki Station - Quaternary Site I

| Dominance (D,CD,O,A) |    | Species                     |
|----------------------|----|-----------------------------|
| T1 Layer             |    | ABSENT                      |
| T2 Layer             |    | ABSENT                      |
|                      |    |                             |
| Shrub Layer          | VS | <i>Acacia harpophylla</i>   |
|                      |    |                             |
| Ground               | D  | <i>Pennisetum ciliare</i>   |
|                      | A  | <i>Leptochloa digitata</i>  |
|                      | O  | <i>Dichanthium sericeum</i> |
|                      | A  | <i>Aristida latifolia</i>   |

### Notes :

- No T1, T2 layer apparent in alignment area.
- Very small and sparse *Acacia harpophylla* plants (<1m). No RE 11.4.9 present.
- Area cleared and dominated by *Pennisetum ciliare* (Buffel Grass).
- See photo below



## Talki Station - Quaternary Site 2

| Dominance (D,CD,O,A)   |  | Species                         |
|--|--|---------------------------------|
| T1 Layer   |  | <i>Acacia cambagei</i>          |
|  |  |                                 |
| T2 Layer   |  | <i>Acacia cambagei</i>          |
|  |  | <i>Terminalia oblongata</i>     |
|  |  |                                 |
| Shrub Layer  |  | <i>Terminalia oblongata</i>     |
|  |  | <i>Citrus glauca</i>            |
|  |  | <i>Carrisa ovata</i>            |
|  |  | <i>Capparis lassiantha</i>      |
|  |  |                                 |
| Ground   |  | <i>Pennisetum ciliare</i>       |
|  |  | <i>Parthenium hysterophorus</i> |
|  |  | <i>Sporobolus sp.</i>           |
|  |  | <i>Panicum decompositum</i>     |
|  |  |                                 |
| Notes :  |  |                                 |
| <ul style="list-style-type: none"> <li>- Area heavily grazed.</li> <li>- No hollows/nests present.</li> <li>- Number of tracks previously cleared</li> <li>- Species composition and vegetation structure consistent with RE 11.4.6</li> </ul> |  |                                 |



## Talki Station - Quaternary Site 3

| Dominance (D,CD,O,A)   |    | Species                      |
|--|----|------------------------------|
| T1 Layer   | D  | <i>Eucalyptus coolabah</i>   |
|  | A  | <i>Corymbia dallachiana</i>  |
|  | O  | <i>Acacia harpophylla</i>    |
| T2 Layer   |    | Absent                       |
|  |    |                              |
| Shrub Layer  | CD | <i>Geijera parviflora</i>    |
|  | CD | <i>Terminalia oblongata</i>  |
|  | A  | <i>Atalaya hemiglauca</i>    |
|  | O  | <i>Eremophila mitchellii</i> |
|  | A  | <i>Acacia harpophylla</i>    |
|  |    |                              |
| Ground   | O  | <i>Pennisetum ciliare</i>    |
|  | D  | <i>Cyperus bifax</i>         |
|  | A  | <i>Panicum decompositum</i>  |
|  | O  | <i>Dichanthium sericeum</i>  |
|  |    |                              |
| Notes :  |    |                              |
| <ul style="list-style-type: none"> <li>- Species composition and vegetation structure not consistent with RE 11.4.6. Species composition and structure representative of RE 11.3.3.</li> <li>- Landzone representative of an alluvial deposit.</li> <li>- Potentially old back swamp/old channels, potentially 11.3.3c.</li> </ul> |    |                              |



## Talki Station - Quaternary Site 4

| Dominance (D,CD,O,A)   |    | Species                         |
|--|----|---------------------------------|
| T1 Layer   | D  | <i>Eucalyptus coolabah</i>      |
|  |    |                                 |
| T2 Layer   | D  | <i>Eucalyptus coolabah</i>      |
|  | A  | <i>Geijera parviflora</i>       |
|  | O  | <i>Terminalia oblongata</i>     |
|  | A  | <i>Acacia salicina</i>          |
|  |    |                                 |
| Shrub Layer  | CD | <i>Muehlenbeckia florulenta</i> |
|  | A  | <i>Acacia salicina</i>          |
|  |    |                                 |
|  | CD | <i>Eremophila mitchellii</i>    |
|  | A  | <i>Eremophila biginoflora</i>   |
|  | A  | <i>Terminalia oblongata</i>     |
|  |    |                                 |
| Ground   | A  | <i>Chloris pectinata</i>        |
|  | A  | <i>Enteropogon acicularis</i>   |
|  | D  | <i>Pennisetum ciliare</i>       |
| Notes :  |    |                                 |
| <ul style="list-style-type: none"> <li>- Species composition and vegetation structure not consistent with RE 11.4.6. Species composition and structure representative of RE 11.3.3.</li> <li>- Landzone representative of an alluvial deposit.</li> <li>- Heavily grazed.</li> </ul> |    |                                 |