Quarts/Rocky Plain: Casuarina Forests and Woodlands

4.3.17 Low woodland of *Casuarina pauper* over low scrub of *Acacia burkittii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain (QRP-CFW1)

The total flora recorded within this vegetation community was represented by a total of 16 Families, 23 Genera and 36 Taxa (Plate 17). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 26. According to the NVIS, this vegetation community is best represented by the MVG8- Casuarina Forests and Woodlands (DotE, 2015b).

Table 26: Vegetation assemblage for Low woodland of *Casuarina pauper* over low scrub of *Acacia burkittii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Casuarina pauper*
Shrub 1-1.5.	10-30%	*Acacia burkittii*
Shrub <0.5m	10-30%	*Ptilotus obovatus*

Plate 17: Low woodland of *Casuarina pauper* over low scrub of *Acacia burkittii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain

Quartz/Rocky Plain: Mallee Woodlands and Shrublands

4.3.18 Open tree mallee of *Eucalyptus gypsophila* over low scrub of *Acacia burkittii* and open hummock grass of *Triodia irritans* on quartz/rocky plain (QRP-MWS1)

The total flora recorded within this vegetation community was represented by a total of 10 Families, 11 Genera and 19 Taxa (Plate 18). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 27. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 27: Vegetation assemblage for Open tree mallee of *Eucalyptus gypsophila* over low scrub of *Acacia burkittii* and open hummock grass of *Triodia irritans* on quartz/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus gypsophila*
Shrub 1-1.5m	10-30%	*Acacia burkittii*
Hummock Grass	10-30%	*Triodia basedowii*

Plate 18: Open tree mallee of *Eucalyptus gypsophila* over low scrub of *Acacia burkittii* and open hummock grass of *Triodia irritans* on quartz/rocky plain

4.3.19 Open tree mallee of *Eucalyptus lucasii* over heath of *Acacia colletioides/ Eremophila scoparia* and open low grass of *Eragrostis pergracilis*/ hummock grass of *Triodia irritans* on quartz/ rocky plain (QRP-MWS2)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 17 Genera and 22 Taxa (Plate 19). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 28. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 28: Vegetation assemblage for Open tree mallee of *Eucalyptus lucasii* over heath of *Acacia colletioides/ Eremophila scoparia* and open low grass of *Eragrostis pergracilis*/ hummock grass of *Triodia irritans* on quartz/ rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus lucasii*
Shrub 1.5-2m	30-70%	*Acacia colletioides* *Eremophila scoparia*
Bunch Grass <0.5m	10-30%	*Eragrostis pergracilis*
Hummock Grass	10-30%	*Triodia irritans*

Plate 19: Open tree mallee of *Eucalyptus lucasii* over heath of *Acacia colletioides/ Eremophila scoparia* and open low grass of *Eragrostis pergracilis*/ hummock grass of *Triodia irritans* on quartz/ rocky plain

Sand Dune: Eucalypt Woodlands/ Mallee Woodlands and Shrublands

4.3.20 Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune (SD-EW/MWS1)

The total flora recorded within this vegetation community was represented by a total of 24 Families, 38 Genera and 55 Taxa (Plate 20). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 29. According to the NVIS, this vegetation community is best represented by the MVG5-Eucalypt Woodlands and MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 29: Vegetation assemblage for Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Eucalyptus gongylocarpa*
Mallee Shrub Form	10-30%	*Eucalyptus youngiana*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 20: Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune

This vegetation community is in various stages of regrowth (Plate 21) as it has been affected by multiple fire events in 2009, 2012 and 2013 within the Anne Beadell Borefield and the access track from Gruyere to the Yeo Borefield. Further details regarding fire regime in the area provided in Section 4.5.

Plate 21: Fire affected Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune

Sand Dune: Mallee Woodlands and Shrublands

4.3.21 Very open tree mallee of *Eucalyptus youngiana* over scrub of *Grevillea juncifolia* subsp. *juncifolia* and dwarf scrub of *Aluta maisonneuvei* subsp. *auriculatal* hummock grass of *Triodia basedowii* on sand dune (SD-MWS1)

The total flora recorded within this vegetation community was represented by a total of 13 Families, 17 Genera and 19 Taxa (Plate 22). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 30. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 30: Vegetation assemblage for Very open tree mallee of *Eucalyptus youngiana* over scrub of *Grevillea juncifolia* subsp. *juncifolia* and dwarf scrub of *Aluta maisonneuvei* subsp. *auriculatal* hummock grass of *Triodia basedowii* on sand dune

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	2-10%	*Eucalyptus youngiana*
Shrub >2m	10-30%	*Grevillea juncifolia* subsp. *juncifolia*
Shrub <0.5m	10-30%	*Aluta maisonneuvei* subsp. *auriculata*
Hummock Grass	10-30%	*Triodia basedowii*

Plate 22: Very open tree mallee of *Eucalyptus youngiana* over scrub of *Grevillea juncifolia* subsp. *juncifolia* and dwarf scrub of *Aluta maisonneuvei* subsp. *auriculatal* hummock grass of *Triodia basedowii* on sand dune

Sand-Loam Plain: Acacia Forest and Woodlands

4.3.22 Low woodland of *Acacia caesaneura* over low scrub of *Senna artemisioides* subsp. *filifolia* and hummock grass of *Triodia basedowii* on sandy-loam plain (SLP-AFW1)

The total flora recorded within this vegetation community was represented by a total of 14 Families, 21 Genera and 36 Taxa (Plate 23). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 31. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 31: Vegetation assemblage for Low woodland of *Acacia caesaneura* over low scrub of *Senna artemisioides* subsp. *filifolia* and hummock grass of *Triodia basedowii* on sandy-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Acacia caesaneura*
Shrub 1.5-2m	10-30%	*Senna artemisioides* subsp. *filifolia*
Hummock Grass	30-70%	*Triodia irritans*

Plate 23: Low woodland of *Acacia caesaneura* over low scrub of *Senna artemisioides* subsp. *filifolia* and hummock grass of *Triodia basedowii* on sandy-loam plain

This vegetation community is in various stages of regrowth (Plate 24) as it has been affected by multiple fire events in 2013 within the central section of the Yeo Borefield. Further details regarding fire regime in the area provided in Section 4.5.

Plate 24: Fire affected Low woodland of *Acacia caesaneura* over low scrub of *Senna artemisioides* subsp. *filifolia* and hummock grass of *Triodia basedowii* on sandy-loam plain

4.3.23 Forest of *Acacia caesaneura* over heath of *Cratystylis subspinescens* and mid-dense hummock grass of *Triodia basedowii* on sand-loam plain (SLP-AFW2)

The total flora recorded within this vegetation community was represented by a total of 7 Families, 12 Genera and 20 Taxa (Plate 25). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 32. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 32: Vegetation assemblage for Forest of *Acacia caesaneura* over heath of *Cratystylis subspinescens* and mid-dense hummock grass of *Triodia basedowii* on sand-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	30-70%	*Acacia caesaneura*
Shrub 1-1.5m	30-70%	*Cratystylis subspinescens*
Hummock Grass	30-70%	*Triodia irritans*

Plate 25: Forest of *Acacia caesaneura* over heath of *Cratystylis subspinescens* and mid-dense hummock grass of *Triodia basedowii* on sand-loam plain

Sandplain: Acacia Forests and Woodlands

4.3.24 Low forest of *Acacia caesaneural A. incurvaneura* over dense hummock grass of *Triodia basedowii* in (S-AFW1)

The total flora recorded within this vegetation community was represented by a total of 18 Families, 28 Genera and 43 Taxa (Plate 26). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 33. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 33: Vegetation assemblage for Low forest of *Acacia caesaneural A. incurvaneura* over dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	30-70%	*Acacia caesaneura* *Acacia incurvaneura*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 26: Low forest of *Acacia caesaneural A. incurvaneura* over dense hummock grass of *Triodia basedowii* in sandplain

This vegetation community is in various stages of regrowth (Plate 27) as it has been affected by multiple fire events in 2012 and 2013 within the central and southern sections of the Yeo Borefield. Further details regarding fire regime in the area provided in Section 4.5.

Plate 27: Fire affected Low forest of *Acacia caesaneural A. incurvaneura* over dense hummock grass of *Triodia basedowii* in sandplain

4.3.25 Low forest of *Acacia caesaneural A. incurvaneura* over low scrub of mixed shrubs and dwarf scrub of *Eremophila gilesii/* open hummock grass of *Triodia irritans* in sandplain (S-AFW2)

The total flora recorded within this vegetation community was represented by a total of 17 Families, 27 Genera and 35 Taxa (Plate 28). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 34. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 34: Vegetation assemblage for Low forest of *Acacia caesaneural A. incurvaneura* over low scrub of mixed shrubs and dwarf scrub of *Eremophila gilesii/* open hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	30-70%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub 1-1.5m	10-30%	*Eremophila latrobei* subsp. *filiformis* *Sida calyxhymenia* *Scaevola spinescens*
Shrub <0.5m	10-30%	*Eremophila gilesii*
Hummock Grass	2-10%	*Triodia irritans*

Plate 28: Low forest of *Acacia caesaneural A. incurvaneura* over low scrub of mixed shrubs and dwarf scrub of *Eremophila gilesii/* open hummock grass of *Triodia irritans* in sandplain

4.3.26 Low woodland of *Acacia incurvaneura/ Hakea lorea* over heath of *Melaleuca interioris* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-AFW3)

The total flora recorded within this vegetation community was represented by a total of 11 Families, 17 Genera and 24 Taxa (Plate 29). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 35. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 35: Vegetation assemblage for Low woodland of *Acacia incurvaneura/ Hakea lorea* over heath of *Melaleuca interioris* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Acacia caesaneura* *Hakea lorea*
Shrub 1-1.5m	30-70%	*Melaleuca interioris*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 29: Low woodland of *Acacia incurvaneura/ Hakea lorea* over heath of *Melaleuca interioris* and mid-dense hummock grass of *Triodia basedowii* in sandplain

This vegetation community is in various stages of regrowth (Plate 30) as it has been affected by multiple fire events in 2012 and 2013 within the Anne Beadell Borefield and the Northern section of the Yeo Borefield. Further details regarding fire regime in the area provided in Section 4.5.

Plate 30: Fire affected Low woodland of *Acacia incurvaneura/ Hakea lorea* over heath of *Melaleuca interioris* and mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.27 Low woodland of *Acacia caesaneura/ A. incurvaneura* over dwarf scrub of *Eremophila forrestii* subsp. *forrestii* and mid-dense hummock grass of *Triodia irritans* in sandplain (S-AFW4)

The total flora recorded within this vegetation community was represented by a total of 20 Families, 26 Genera and 36 Taxa (Plate 31). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 36. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 36: Vegetation assemblage for Low woodland of *Acacia caesaneura/ A. incurvaneura* over dwarf scrub of *Eremophila forrestii* subsp. *forrestii* and mid-dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	10-30%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub 0.5-1m	10-30%	*Eremophila forrestii* subsp. *forrestii*
Hummock Grass	30-70%	*Triodia irritans*

Plate 31: woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and dwarf scrub of *Ptilotus obovatus/* open low grass of *Eragrostis eriopoda* on quartz/ rocky plain

4.3.28 Scrub of *Acacia grasbyi* over heath of *A. desertorum* and mid-dense hummock grass of *Triodia irritans* in sandplain (S-AFW5)

The total flora recorded within this vegetation community was represented by a total of 3 Families, 6 Genera and 9 Taxa (Plate 32). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 37. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 37: Vegetation assemblage for Scrub of *Acacia grasbyi* over heath of *A. desertorum* and mid-dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Shrub >2m	10-30%	*Acacia grasbyi*
Shrub 1-1.5m	30-70%	*Acacia desertorum*
Hummock Grass	30-70%	*Triodia irritans*

Plate 32: Scrub of *Acacia grasbyi* over heath of *A. desertorum* and mid-dense hummock grass of *Triodia irritans* in sandplain

Sandplain: Eucalypt Woodland

4.3.29 Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain (S-EW1)

The total flora recorded within this vegetation community was represented by a total of 19 Families, 30 Genera and 46 Taxa (Plate 33). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 38. According to the NVIS, this vegetation community is best represented by the MVG5-Eucalypt Woodland

Table 38: Vegetation assemblage for Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Eucalyptus gongylocarpa*
Shrub 1.5-2m	30-70%	*Acacia ligulata*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 33: Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain

This vegetation community is in various stages of regrowth (Plate 34) as it has been affected by multiple fire events in 2012 within the Potable Borefield. Further details regarding fire regime in the area provided in Section 4.5.

Plate 34: Fire affected Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain

Sandplain: Eucalypt Woodlands/ Mallee Woodlands and Shrublands

4.3.30 Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-EW/MWS1)

The total flora recorded within this vegetation community was represented by a total of 22 Families, 35 Genera and 55 Taxa (Plate 35). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 39. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands and MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 39: Vegetation assemblage Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Eucalyptus gongylocarpa*
Mallee Shrub Form	30-70%	*Eucalyptus youngiana*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 35: Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain

This vegetation community is in various stages of regrowth (Plate 36) as it has been affected by multiple fire events in 2012 within the Anne Beadell Borefield and the southern section of the Yeo Borefield. Further details regarding fire regime in the area provided in Section 4.5.

Plate 36: Fire affected Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.31 Low woodland of *Eucalyptus gongylocarpa* over open tree mallee of *Eucalyptus youngiana* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia basedowii* in sandplain (S-EW/MWS2)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 18 Genera and 26 Taxa (Plate 37). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 40. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands and MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 40: Vegetation assemblage for Low woodland of *Eucalyptus gongylocarpa* over open tree mallee of *Eucalyptus youngiana* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Eucalyptus gongylocarpa*
Mallee Tree Form	10-30%	*Eucalyptus youngiana*
Shrub 1-1.5m	30-70%	*Aluta maisonneuvei* subsp. *auriculata*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 37: Low woodland of *Eucalyptus gongylocarpa* over open tree mallee of *Eucalyptus youngiana* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia basedowii* in sandplain

Sandplain – Mallee Woodlands and Shrublands

4.3.32 Open tree mallee of *Eucalyptus youngiana* over dense hummock grass of *Triodia basedowii* in sandplain (S-MWS1)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 22 Genera and 40 Taxa (Plate 38). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 41. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 41: Vegetation assemblage for Open tree mallee of *Eucalyptus youngiana* over dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus youngiana*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 38: Open tree mallee of *Eucalyptus youngiana* over dense hummock grass of *Triodia basedowii* in sandplain

This vegetation community is in various stages of regrowth (Plate 39) as it has been affected by multiple fire events in 2012 and 2013 within the Anne Beadell Borefield and the southern section of the Yeo Borefield. Further details regarding fire regime in the area provided in Section 4.5.

Plate 39: Fire affected Open tree mallee of *Eucalyptus youngiana* over dense hummock grass of *Triodia basedowii* in sandplain

4.3.33 Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia caesaneura* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-MWS2)

The total flora recorded within this vegetation community was represented by a total of 17 Families, 26 Genera and 36 Taxa (Plate 40). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 42. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 42: Vegetation assemblage for Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia caesaneura* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus youngiana*
Shrub 1.5-2m	30-70%	*Acacia caesaneura*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 40: Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia caesaneura* and mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.34 Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain (S-MWS3)

The total flora recorded within this vegetation community was represented by a total of 15 Families, 24 Genera and 43 Taxa (Plate 41). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 43. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 43: Vegetation assemblage for Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus youngiana*
1-1.5m	30-70%	*Acacia desertorum* *Acacia grasbyi*
Shrub <0.5m	30-70%	*Aluta maisonneuvei* subsp. *auriculata*
Hummock Grass	30-70%	*Triodia irritans*

Plate 41: Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain

4.3.35 Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *glabra* and mid-dense hummock grass of *Triodia irritans* in sandplain (S-MWS4)

The total flora recorded within this vegetation community was represented by a total of 15 Families, 21 Genera and 36 Taxa (Plate 42). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 44. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 44: Vegetation assemblage for Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *glabra* and mid-dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus concinna*
Shrub 1-1.5m	10-30%	*Eremophila latrobei* subsp. *glabra*
Hummock Grass	30-70%	*Triodia irritans*

Plate 42: Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *glabra* and mid-dense hummock grass of *Triodia irritans* in sandplain

4.3.36 Open tree mallee of *Eucalyptus concinna/ E. mannensis* over heath of mixed shrubs and hummock grass of *Triodia basedowii* in sandplain (S-MWS5)

The total flora recorded within this vegetation community was represented by a total of 15 Families, 21 Genera and 38 Taxa (Plate 43). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 45. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 45: Vegetation assemblage for Open tree mallee of *Eucalyptus concinna/ E. mannensis* over heath of mixed shrubs and hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus concinna* *Eucalyptus mannensis*
Shrub 1-1.5m	30-70%	*Acacia ligulata* *Senna artemisioides* subsp. *filifolia* *Senna artemisioides* subsp. x *artemisioides* *Scaevola spinescens*
Hummock Grass	10-30%	*Triodia basedowii*

Plate 43: Open tree mallee of *Eucalyptus concinna/ E. mannensis* over heath of mixed shrubs and hummock grass of *Triodia basedowii* in sandplain

This vegetation community is in various stages of regrowth (Plate 44) as it has been affected by multiple fire events in 2012 and 2013 within the northern and central sections of the Yeo Borefield. Further details regarding fire regime in the area provided in Section 4.5.

Plate 44: Fire affected Open tree mallee of *Eucalyptus concinna/ E. mannensis* over heath of mixed shrubs and hummock grass of *Triodia basedowii* in sandplain

4.3.37 Open tree mallee of *Eucalyptus concinna* over heath of mixed shrubs and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-MWS6)

The total flora recorded within this vegetation community was represented by a total of 15 Families, 23 Genera and 36 Taxa (Plate 45). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in **Table 46**. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 46: Vegetation assemblage for Open tree mallee of *Eucalyptus concinna* over heath of mixed shrubs and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus concinna*
Shrub 1.5-2m	30-70%	*Eremophila platythamnos* subsp. *platythamnos* *Olearia pimelioides* *Senna artemisioides* subsp. x *artemisioides* *Senna artemisioides* subsp. *filifolia*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 45: Open tree mallee of *Eucalyptus concinna* over heath of mixed shrubs and mid-dense hummock grass of *Triodia basedowii* in sandplain

This vegetation community is in various stages of regrowth (Plate 46) as it has been affected by multiple fire events in 2013 within the northern section of the Yeo Borefield. Further details regarding fire regime in the area provided in Section 4.5.

Plate 46: Fire affected Open tree mallee of *Eucalyptus concinna* over heath of mixed shrubs and mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.38 Very open tree mallee of *Eucalyptus youngiana* over low heath of *Aluta maisonneuvei* subsp. *auriculata* and hummock grass of *Triodia basedowii* in sandplain (S-MWS7)

The total flora recorded within this vegetation community was represented by a total of 5 Families, 7 Genera and 8 Taxa (Plate 47). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 47. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 47: Vegetation assemblage for Very open tree mallee of *Eucalyptus youngiana* over low heath of *Aluta maisonneuvei* subsp. *auriculata* and hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	2-10%	*Eucalyptus youngiana*
Shrub 1-1.5m	30-70%	*Aluta maisonneuvei* subsp. *auriculata*
Hummock Grass	10-30%	*Triodia basedowii*

Plate 47: Very open tree mallee of *Eucalyptus youngiana* over low heath of *Aluta maisonneuvei* subsp. *auriculata* and hummock grass of *Triodia basedowii* in sandplain

4.3.39 Very open tree mallee of *Eucalyptus leptopoda* subsp. *elevata/ E. youngianal* open scrub of *Grevillea pterosperma* over heath of *Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-MWS8)

The total flora recorded within this vegetation community was represented by a total of 10 Families, 16 Genera and 19 Taxa (Plate 48). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 48. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 48: Vegetation assemblage for Very open tree mallee of *Eucalyptus leptopoda* subsp. *elevata/ E. youngianal* open scrub of *Grevillea pterosperma* over heath of *Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	2-10%	*Eucalyptus leptopoda* subsp. *elevata* *Eucalyptus youngiana*
Shrub >2m	2-10%	*Grevillea pterosperma*
Shrub 1-1.5m	30-70%	*Aluta maisonneuvei* subsp. *auriculata*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 48: Very open tree mallee of *Eucalyptus leptopoda* subsp. *elevata/ E. youngianal* open scrub of *Grevillea pterosperma* over heath of *Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Sand Plain: Regrowth, Modified Native Vegetation

4.3.40 Regrowth open tree mallee of *Eucalyptus leptopoda* subsp. *elevata* over heath of *Aluta maisonneuvei* subsp. *auriculata* and low heath of *Leptosema chambersiil* mid-dense hummock grass of *Triodia basedowii* in (S-RMNV1)

The total flora recorded within this vegetation community was represented by a total of 9 Families, 14 Genera and 20 Taxa (Plate 49). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 49. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 49: Vegetation assemblage for Regrowth open tree mallee of *Eucalyptus leptopoda* subsp. *elevata* over heath of *Aluta maisonneuvei* subsp. *auriculata* and low heath of *Leptosema chambersiil* mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus leptopoda* subsp. *elevata*
Shrub <0.5m	30-70%	*Leptosema chambersii*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 49: Regrowth open tree mallee of *Eucalyptus leptopoda* subsp. *elevata* over heath of *Aluta maisonneuvei* subsp. *auriculata* and low heath of *Leptosema chambersiil* mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.41 Regrowth open tree mallee of *Eucalyptus trivalva* over very open shrub mallee of *E. youngiana* and low heath of *Alyogyne pinoniana/ Sida calyxhymenia* in sandplain (S-RMNV2)

The total flora recorded within this vegetation community was represented by a total of 11 Families, 15 Genera and 23 Taxa (Plate 50). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 50. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 50: Vegetation assemblage for Regrowth open tree mallee of *Eucalyptus trivalva* over very open shrub mallee of *E. youngiana* and low heath of *Alyogyne pinoniana/ Sida calyxhymenia* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus trivalva*
Shrub Mallee Form	2-10%	*Eucalyptus youngiana*
Shrub 1-1.5m	30-70%	*Alyogyne pinoniana* *Sida calyxhymenia*

Plate 50: Regrowth open tree mallee of *Eucalyptus trivalva* over very open shrub mallee of *E. youngiana* and low heath of *Alyogyne pinoniana/ Sida calyxhymenia* in sandplain

4.3.42 Regrowth Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum*/ *Grevillea didymobotrya* subsp. *didymobotrya* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-MWS3)

The total flora recorded within this vegetation community was represented by a total of 8 Families, 13 Genera and 18 Taxa (Plate 51). No Threatened or Priority Flora taxa were identified within this vegetation community. Two introduced taxa; *Cenchrus ciliaris* (Buffel Grass) and *Schinus molle* (Peppercorn Tree) were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 51. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 51: Vegetation assemblage for Regrowth open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum*/ *Grevillea didymobotrya* subsp. *didymobotrya* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus youngiana*
Shrub 1-1.5m	30-70%	*Acacia desertorum* *Grevillea didymobotrya* subsp. *didymobotrya*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 51: Regrowth open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum*/ *Grevillea didymobotrya* subsp. *didymobotrya* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Sand-Loam Plain: Regrowth, modified native vegetation

4.3.43 Regrowth open tree mallee of *Eucalyptus ?concinna/ E. ?mannensis* over heath of *Melaleuca interioris* and mid-dense hummock grass of *Triodia basedowii* on sand-loam plain (SLP-RMNV1)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 18 Genera and 21 Taxa (Plate 52). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 52. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 52: Vegetation assemblage for Regrowth open tree mallee of *Eucalyptus ?concinna/ E. ?mannensis* over heath of *Melaleuca interioris* and mid-dense hummock grass of *Triodia basedowii* on sand-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree Mallee Form	10-30%	*Eucalyptus ?concinna* *Eucalyptus ?mannensis*
Shrub 1-1.5m	30-70%	*Melaleuca interioris*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 52: Regrowth open tree mallee of *Eucalyptus ?concinna/ E. ?mannensis* over heath of *Melaleuca interioris* and mid-dense hummock grass of *Triodia basedowii* on sand-loam plain

This vegetation community is in various stages of regrowth, the majority of the vegetation community has been affected by fire events, however part of the vegetation community within the central section of the Yeo Borefield has not been affected by fire (Plate 53).

Plate 53: Mature open tree mallee of *Eucalyptus concinna/ E. mannensis* over heath of *Melaleuca interioris* and mid-dense hummock grass of *Triodia basedowii* on sand-loam plain

4.4 Vegetation of Conservation Significance

None of the vegetation communities within the Gruyere Borefields survey area were found to have National Environmental Significance as defined by the Commonwealth *EPBC Act 1999*. There were no TECs or PECs listed under Commonwealth legislation or as defined by the DPaW identified within the survey area (DotE, 2015a; DPaW, 2015c).

Groundwater Dependent Ecosystems (GDE) includes biological assemblages of species such as wetlands or woodlands that use groundwater either opportunistically or as their primary water source. For the purposes of this report, a GDE is defined as any vegetation community that derives part of its water budget from groundwater and must be assumed to have some degree of groundwater dependency (Hatton and Evans 1998). Based on field observations and analysis of hydrological information from within the survey area, two vegetation communities are potentially GDE:

1. Low woodland of *Acacia aptaneura/ A. incurvaneura* over scrub of *A. tetragonophylla/ Melaleuca interioris* and open low grass of *Eragrostis falcata* in playa (CD-AFW2); and
2. Open tree mallee of *Eucalyptus concinna* over low scrub of *Melaleuca interioris* and low grass of *Eragrostis pergracilis* in drainage depression (DD-MWS1).

The survey area is not located within any ESA or Schedule 1 Area, as described in Regulation 6 and Schedule 1, clause 4 of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*.

The survey area is not located within any DPaW managed land. However the Yeo Lake Nature Reserve, which is listed as a Class A Nature Reserve managed by DPaW, is located approximately 700m to the east of the survey area (Anne Beadell Borefield). The Yeo Lake Nature Reserve is also listed as an ESA and a Schedule 1 Area.

The Yeo Lake Nature Reserve is significant as it is biologically important for the different assemblage of plants and animals present. It comprises of some permanent and semi-permanent water holes in an otherwise arid region (DotE, 2015c). It is described as a system of salt lakes, with the floor of which is vegetated with rich variety of halophytes (some endemic). It includes gypsum ridges carrying *Casuarina cristata/Acacia colletioides* association that is unknown elsewhere in the desert. To the west, south-west and north are extensive sand plains and dunes interspersed with rocky hills and breakaways. The area is rich in reptiles (forty lizard species and three snake species) and is the type locality for several species. The sand areas dominated by spinifex, mallees, mulga and bara gum (DotE, 2015c).

A regional map of the survey area in relation to surrounding areas of conservation significance is provided in Appendix 1.

4.5 Vegetation Condition

Based on Keighery's vegetation health rating scale (1994), fourteen vegetation communities (Table 53) were rated as 'Good' (Figure 11) which depicts vegetation structures that have been significantly altered by very obvious signs of multiple disturbances, in this instance as a result of fire, exploration activities, grazing, vehicle access, historic clearing and introduced species; however it retains its basic structure and has capacity to regenerate (Appendix 6).

Twenty-nine vegetation communities (Table 53) were rated as 'very good' (Figure 11) which is defined as "*vegetation that is altered due to obvious signs of disturbance,"* including exploration activities, fire and camel grazing; however the impacts on native vegetation within the survey area was minimal.

Lightning derived fires are common within the Great Victoria Desert. The survey area has been subjected to major fire events in 2009, 2012 and 2013, with some section of the survey area subjected to multiple successional fires in 2012 and 2013 (Figure 12) (Sentinel, 2015). Thirteen vegetation communities within the survey area have been affected by the fire events, with three of these vegetation communities only existing within the survey area in a regrowth native vegetation status. Vegetation is likely to regenerate naturally over time.

Table 53: Health Rating of Vegetation Communities within the Gruyere Borefields survey area

Landform	NVIS Vegetation Group	Vegetation Community	Code	Health
Clay-Loam Plain	Acacia Forests and Woodlands	Low woodland of *Acacia caesaneura/ A. aptaneura/ A. incurvaneura* over heath of *Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and low heath of *Ptilotus obovatus* on clay-loam plain	CLP-AFW1	**Very Good**
	Acacia Shrublands	Scrub of *Acacia burkittii* over low scrub of *Senna artemisioides* subsp. *filifolia* and dwarf scrub of *Ptilotus obovatus/* low grass of *Aristida contorta* on clay-loam plain	CLP-AS1	**Very Good**

Landform	NVIS Vegetation Group	Vegetation Community	Code	Health
	Mallee Open Woodlands and Sparse Mallee Shrublands	Very open tree mallee of *Eucalyptus lucasii/* low woodland of *Acacia caesaneura/ A. incurvaneura* over heath of *Eremophila latrobei* subsp. *glabra* and very open low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-MOW/SMS1	**Very Good**
Closed Depression	Acacia Forests and Woodlands	Open low woodland of *Acacia caesaneura* over open dwarf scrub of *Eremophila maculata* subsp. *brevifolia* and low heath of *Frankenia interioris* var. *parviflora* in playa	CD-AFW1	**Very Good**
		Low woodland of *Acacia aptaneura/ A. incurvaneura* over scrub of *A. tetragonophylla/ Melaleuca interioris* and open low grass of *Eragrostis falcata* in playa	CD-AFW2	**Good**
	Casuarina Forests and Woodlands/ Mallee Woodlands and Shrublands	Open tree mallee of *Eucalyptus gypsophila/* low woodland of *Casuarina pauper* over low scrub of *Melaleuca interioris* and open hummock grass of *Triodia basedowii* on playa edge	CD-CFS/MWS1	**Very Good**
	Chenopod Shrublands, Samphire Shrublands and Forblands	Low heath of *Tecticornia undulata/ T. halocnemoides* on playa	CD-CSSSF1	**Good**
	Mallee Woodlands and Shrublands	Very open tree mallee of *Eucalyptus gypsophila* over open low scrub of *Eremophila scoparia* and dwarf scrub of *Atriplex bunburyana* on playa edge	CD-MWS1	**Good**
Drainage Depression	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura/ A. caesaneura* over open low scrub of *Eremophila latrobei* subsp. *latrobei* and dwarf scrub of *Eremophila gilesii/ Eremophila malacoides* with occasional *Eragrostis eriopoda* in drainage depression	DD-AFW1	**Very Good**
	Acacia Open Woodlands	Open low woodland of *Acacia incurvaneura* over dwarf scrub of *Maireana pyramidata* and low heath of *Frankenia georgei/ Sclerolaena densiflora* in drainage depression	DD-AOW1	**Very Good**
		Open low woodland of *Acacia caesaneura/A. macraneura/A. ayersiana* over low scrub of *A. ramulosa* var. *ramulosa/Eremophila forrestii* subsp. *forrestii/ Eremophila margarethae/ Maireana triptera* and open low grass of *Eragrostis laniflora* in drainage depression	DD-AOW2	**Good**
	Mallee Woodlands and Shrublands	Open tree mallee of *Eucalyptus concinna* over low scrub of *Melaleuca interioris* and low grass of *Eragrostis pergracilis* in drainage depression	DD-MWS1	**Very Good**
Quartz/Rocky Plain	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over heath of *Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain	QRP-AFW1	**Very Good**
		Low woodland of *Acacia incurvaneura* over heath of *Eremophila latrobei* subsp. *latrobei* and low heath of *Eremophila exilifolia* on quartz/rocky plain	QRP-AFW2	**Very Good**
		Forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of *Eremophila latrobei* subsp. *glabra/ Prostanthera campbellii* and very open low grass of *Eragrostis eriopoda/* open hummock grass of *Triodia irritans* quartz/rocky plain	QRP-AFW3	**Very Good**
		Open low woodland of *Acacia caesaneura* over low scrub of *A. grasbyi/ Senna artemisioides* subsp. *filifolia* and low heath of *Scaevola spinescens* on quartz/rocky plain	QRP-AFW4	**Very Good**
	Casuarina Forests and Woodlands	Low woodland of *Casuarina pauper* over low scrub of *Acacia burkittii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-CFW1	**Good**
	Mallee Woodlands and Shrublands	Open tree mallee of *Eucalyptus gypsophila* over low scrub of *Acacia burkittii* and open hummock grass of *Triodia irritans* on quartz/rocky plain	QRP-MWS1	**Good**
		Low woodland of *Eucalyptus lucasii* over heath of *Acacia colletioides/ Eremophila scoparia* and open low grass of *Eragrostis pergracilis/* hummock grass of *Triodia irritans* on quartz/ rocky plain	QRP-MWS2	**Good**
Sand Dune	Eucalypt Woodlands/Mallee Woodlands and Shrublands	Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune	SD-EW/MWS1	**Very Good**
	Mallee Woodlands and Shrublands	Very open tree mallee of *Eucalyptus youngiana* over scrub of *Grevillea juncifolia* subsp. *juncifolia* and dwarf scrub of *Aluta maisonneuvei* subsp. *auriculata/* hummock grass of *Triodia basedowii* on sand dune	SD-MWS1	**Good**

Landform	NVIS Vegetation Group	Vegetation Community	Code	Health
Sand-Loam Plain	Acacia Forests and Woodlands	Low woodland of *Acacia caesaneura* over low scrub of *Senna artemisioides* subsp. *filifolia* and hummock grass of *Triodia basedowii* on sandy-loam plain	SLP-AFW1	**Good**
		Forest of *Acacia caesaneura* over heath of *Cratystylis subspinescens* and mid-dense hummock grass of *Triodia basedowii* on sand-loam plain	SLP-AFW2	**Very Good**
	Regrowth, modified native vegetation	Regrowth open tree mallee of *Eucalyptus ?concinna/ E. ?mannensis* over heath of *Melaleuca interioris* and mid-dense hummock grass of *Triodia basedowii* on sand-loam plain	SLP-RMNV1	**Good**
Sandplain	Acacia Forests and Woodlands	Low forest of *Acacia caesaneural A. incurvaneura* over dense hummock grass of *Triodia basedowii* in sandplain	S-AFW1	**Very Good**
		Low forest of *Acacia caesaneural A. incurvaneura* over low scrub of mixed shrubs and dwarf scrub of *Eremophila gilesii/* open hummock grass of *Triodia irritans* in sandplain	S-AFW2	**Very Good**
		Low woodland of *Acacia incurvaneura/ Hakea lorea* over heath of *Melaleuca interioris* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-AFW3	**Very Good**
		Low woodland of *Acacia caesaneura/ A. incurvaneura* over dwarf scrub of *Eremophila forrestii* subsp. *forrestii* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-AFW4	**Very Good**
		Scrub of *Acacia grasbyi* over heath of *A. desertorum* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-AFW5	**Very Good**
	Eucalypt Woodlands	Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW1	**Very Good**
	Eucalypt Woodlands/Mallee Woodlands and Shrublands	Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS1	**Very Good**
		Low woodland of *Eucalyptus gongylocarpa* over open tree mallee of *Eucalyptus youngiana* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS2	**Very Good**
	Mallee Woodlands and Shrublands	Open tree mallee of *Eucalyptus youngiana* over dense hummock grass of *Triodia basedowii* in sandplain	S-MWS1	**Very Good**
		Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia caesaneura* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS2	**Very Good**
		Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS3	**Very Good**
		Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *glabra* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS4	**Very Good**
		Open tree mallee of *Eucalyptus concinna/ E. mannensis* over heath of mixed shrubs and hummock grass of *Triodia basedowii* in sandplain	S-MWS5	**Very Good**
		Open tree mallee of *Eucalyptus concinna* over heath of mixed shrubs and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS6	**Very Good**
		Very open tree mallee of *Eucalyptus youngiana* over low heath of *Aluta maisonneuvei* subsp. *auriculata* and hummock grass of *Triodia basedowii* in sandplain	S-MWS7	**Good**
		Very open tree mallee of *Eucalyptus leptopoda* subsp. *elevata/ E. youngiana/* open scrub of *Grevillea pterosperma* over heath of *Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS8	**Very Good**
	Regrowth, modified native vegetation	Regrowth open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum/ Grevillea didymobotrya* subsp. *didymobotrya* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV3	**Good**

Landform	NVIS Vegetation Group	Vegetation Community	Code	Health
		Regrowth open tree mallee of *Eucalyptus leptopoda* subsp. *elevata* over heath of *Aluta maisonneuvei* subsp. *auriculata* and low heath of *Leptosema chambersii*/ mid-dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV1	**Good**
		Regrowth open tree mallee of *Eucalyptus trivalva* over very open shrub mallee of *E. youngiana* and low heath of *Alyogyne pinoniana*/ *Sida calyxhymenia* in sandplain	S-RMNV2	**Good**

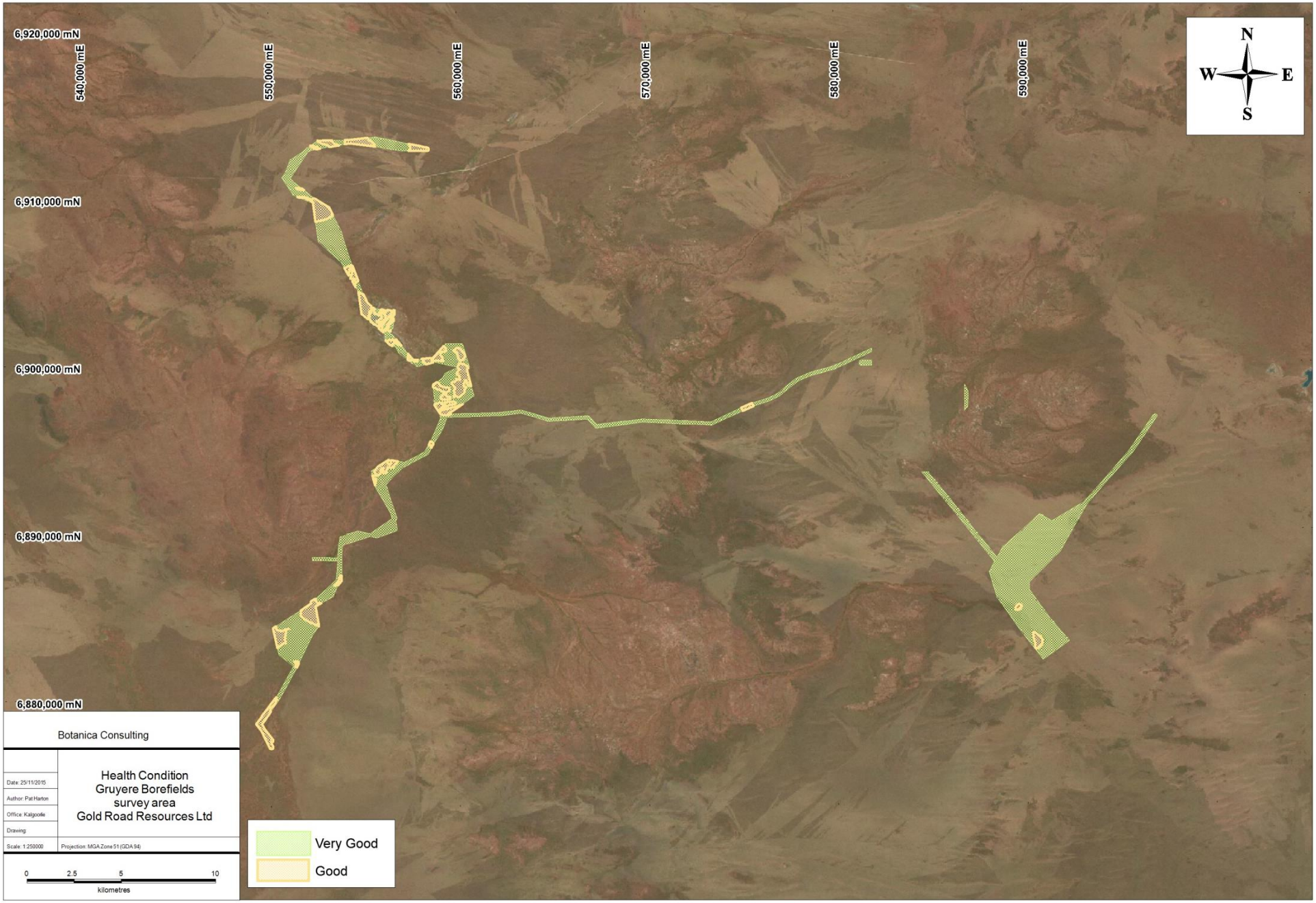

Figure 11: Health Condition of vegetation within the Gruyere Borefields survey area

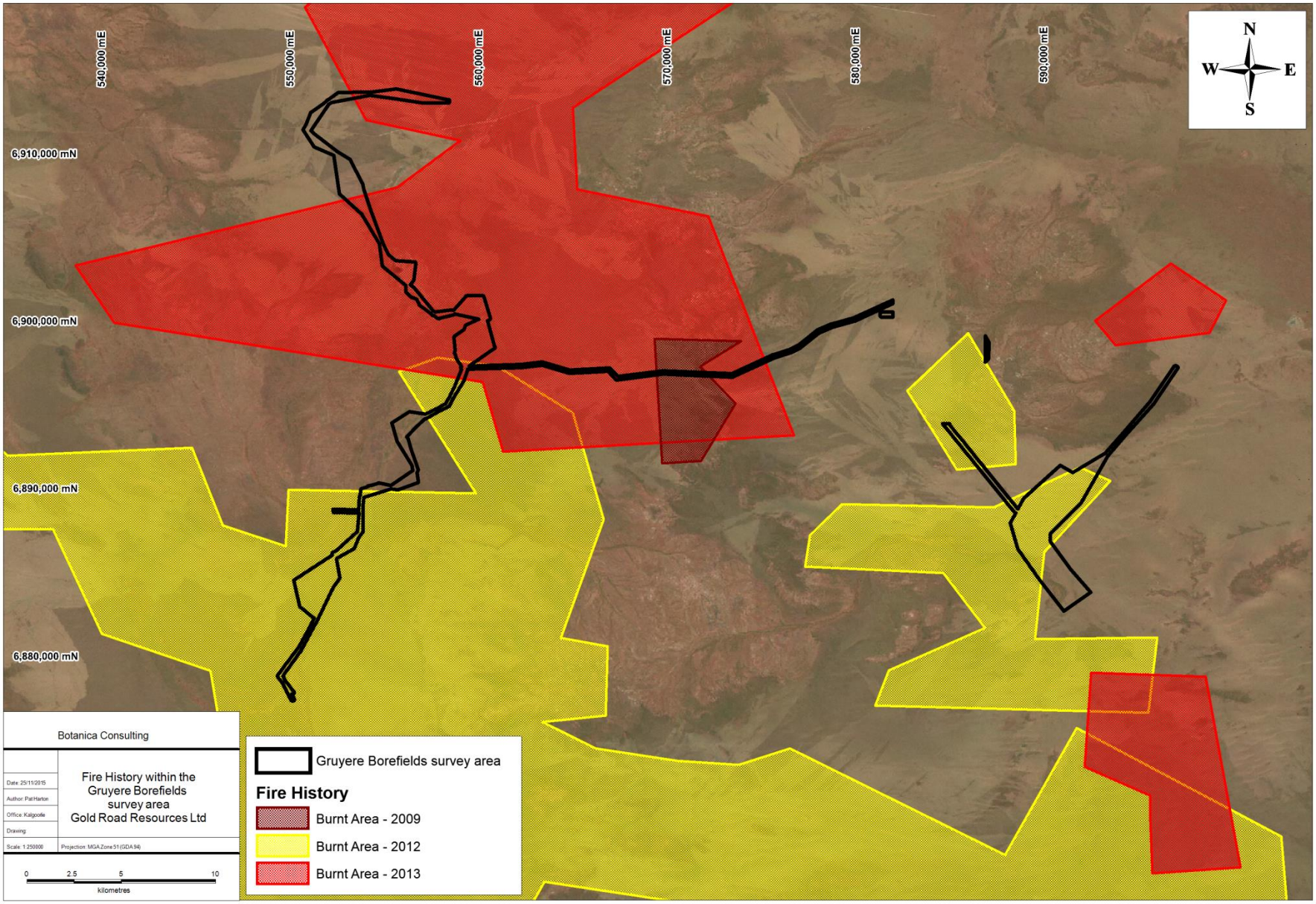

Figure 12: Fire History within the Gruyere Borefields survey area (Sentinel, 2015)

4.6 Introduced Plant Taxa

One introduced taxon; *Cenchrus ciliaris* (Buffel Grass), was identified within the Gruyere Borefields survey area. A map showing the locations of the introduced taxa is provided in Figure 13. According to the DAFWA *Cenchrus ciliaris* is not listed as a Declared Plant under Section 22 of the BAM Act.

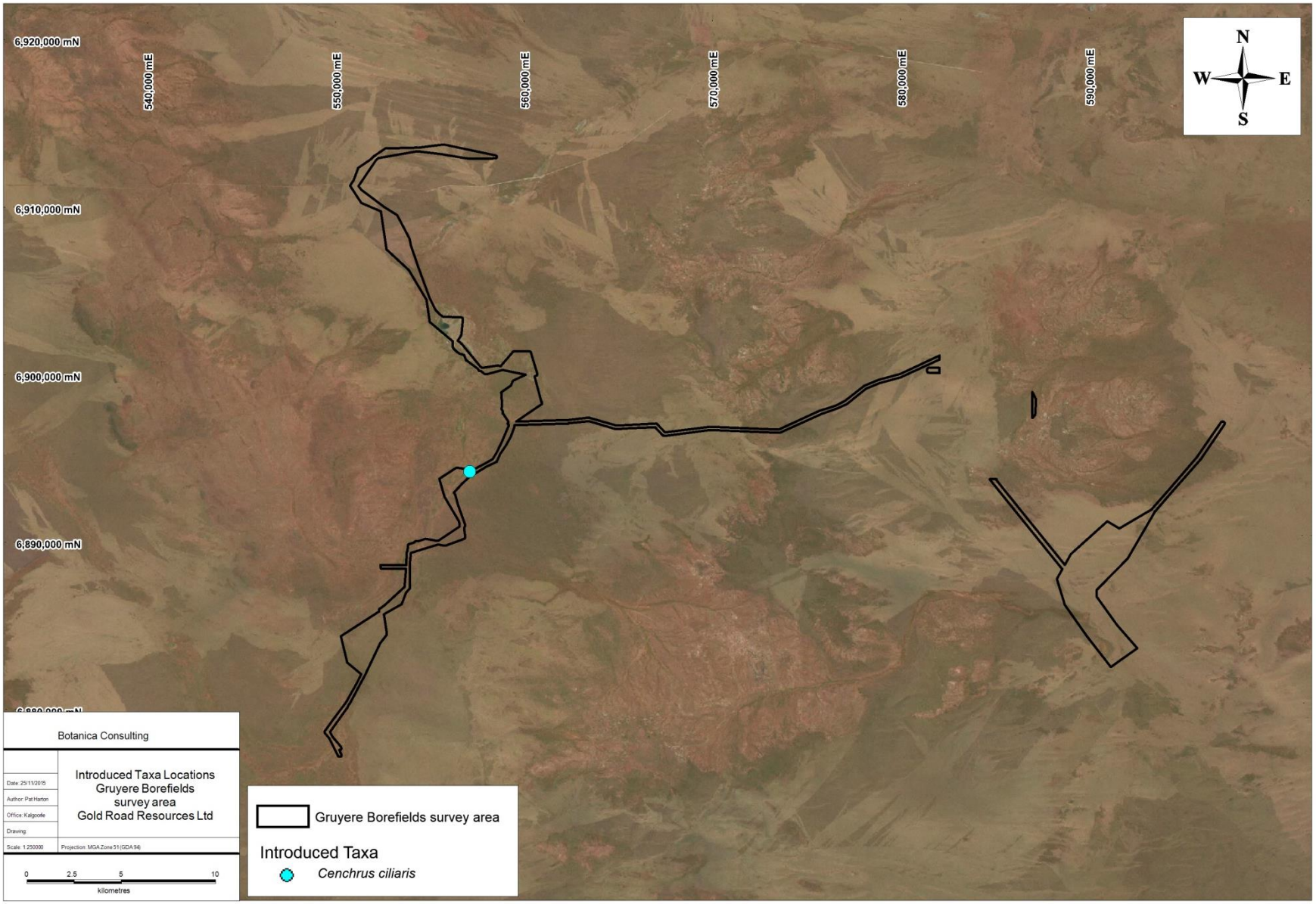

Figure 13: Locations of Introduced Taxa within the Gruyere Borefields survey area

4.6.1 *Cenchrus ciliaris* (Buffel Grass)

This taxon is described as a tufted or sometimes stoloniferous perennial, grass-like or herbaceous plant which grows between 0.2-1.5 m high (Plate 54). It produces purple flowers from February to October. It occurs on white, red or brown sand, stony red loam, black cracking clay soils (WAHERB, 2015). This taxon was identified within three locations within two vegetation communities:

1. Approximately 4.5km south of the Mount Shenton Yamarna Road within the Yeo Borefield in the Open tree mallee of *Eucalyptus concinna* over low scrub of *Melaleuca interioris* and low grass of *Eragrostis pergracilis* in drainage depression (DD-MWS1).

Plate 54: *Cenchrus ciliaris* (Buffel Grass) (WAHERB, 2015)

5 Relevant Legislation and Compliance with Recognised Standards

5.1 Commonwealth Legislation

Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*

The aim of this Act is to protect matters of national environmental significance, and is used by the Commonwealth DotE to list threatened taxa and ecological communities into categories based on the criteria set out in the Act (www.environment.gov.au/epbc/index.html). The Act provides a national environmental assessment and approval system for proposed developments and enforces strict penalties for unauthorised actions that may affect matters of national environmental significance.

The survey area does not have national environmental significance under the EPBC Act. There are no TEC or Threatened Flora as listed under the EPBC Act identified within the survey area.

5.2 State Legislation

5.2.1 Clearing of Native Vegetation

Under Section 51C of the EP Act and the EP Regulations any clearing of native vegetation in Western Australia that is not eligible for exemption under Schedule 6 of the EP Act or under the EP Regulations requires a clearing permit from the DER or DMP. Under Section 51A of the EP Act native vegetation includes aquatic and terrestrial vegetation indigenous to Western Australia, and intentionally planted vegetation declared by regulation to be native vegetation, but not vegetation planted in a plantation or planted with commercial intent. Section 51A of the EP Act defines clearing as "*the killing or destruction of; the removal of; the severing or ringbarking of trunks or stems of; or the doing of substantial damage to some or all of the native vegetation in an area, including the flooding of land, the burning of vegetation, the grazing of stock or an act or activity that results in the above*".

Exemptions under Schedule 6 of the EP Act and the EP Regulations do not apply for clearing an area exceeding 10ha per tenement, per year; clearing in ESA's as declared under Section 51B of the EP Act or within Schedule 1 Areas as described in Regulation 6 and Schedule 1, clause 4 of the EP Regulations.

The Gruyere Borefields survey area is not located within an ESA or a Schedule 1 Area; a Schedule 1 Area, the "Yeo Lake Nature Reserve" (Class A) is located approximately 700m east of the survey area (Potable Borefield). If development of the project will require >10ha of clearing, a clearing permit is required.

5.2.2 Environmental Protection Act WA 1986

This Act pertains to the assessment of applications for clearing permits and aims to protect Declared Rare Flora and Threatened Ecological Communities from clearing. Threatened Ecological Communities are protected even where exemptions for a clearing permit may apply. The act enforces both financial and/or imprisonment penalties on those who unlawfully damage a TEC.

The survey area does not contain any TEC or Threatened Flora.

5.2.3 Wildlife Conservation Act WA 1950

This Act is used by the Western Australian DPaW to list flora taxa as being protected and the level of protection needed for such flora. Flora taxa are classified as 'Declared Rare Flora' when their populations are geographically restricted or are threatened by local processes. Under this Act all native flora (spermatophytes, Pteridophyta, bryophytes and thallophytes) are protected throughout the State. Financial penalties are enforced under this Act if threatened plant taxa are collected without an appropriate licence.

5.2.4 DPaW Priority lists

The DPaW lists 'Priority' flora taxa which are under consideration for declaration as Rare Flora. Taxa classed as Priority 1-3 are in urgent need of further survey, whereas Priority 4 taxa are considered to have been adequately surveyed but may become vulnerable or rare in future years. Priority 4 taxa are also taxa that have been removed from the threatened taxa list in the past 5 years. Priority 5 taxa are those taxa which are not currently threatened but are subject to a specific conservation program, the cessation of which would result in the taxon likely to become threatened within 5 years The DPaW also lists PECs, which identifies those communities that may need monitoring before possible nomination for TEC status. These priority taxa and communities have no formal legal protection until they are endorsed by the Minister as being Declared Rare Flora and TEC's respectively.

Results of the DPaW databases search (DPaW, 2014) and previous flora surveys conducted by BC revealed six flora of conservation significance within a 40km radius of the Gruyere Borefields survey area, of which all six had the potential to occur within the survey area. No Priority Flora taxa were identified within the survey area.

5.3 EPA Position Statements

The EPA develops Position Statements to inform the public about environmental issues facing Western Australia, and the plans for the future to ensure protection and ecological sustainability of environmentally important ecosystems. It provides a set of principles to assist the public and decision-makers on their responsibilities for managing land with care. These principles also provide the basis for the Environmental Protection Authority to evaluate and report upon achieving environmental and ecological sustainability, and the protection of natural resources.

5.3.1 Position Statement No. 2

Environmental Protection of Native Vegetation in Western Australia (EPA 2000) outlines EPA policy on the protection of native vegetation in Western Australia, particularly in the agricultural area. It identifies basic elements that the EPA should consider when assessing proposals that impact on biological diversity. These include comparison of all proposal options; avoidance of taxa and community extinctions; an expectation that implementing the proposal will not take a vegetation type below the "threshold level" of 30%; and that proponents should demonstrate that on- and off-site impacts can be managed.

The survey area does not contain any Threatened Flora or TEC suggesting that clearing within the area will meet the EPA standards outlined in Position statement No. 2. According to DAFWA (2011) the survey area occurs within the pre-European Beard vegetation associations Great Victoria Desert 18, 24, 45, 84, 85, 239, 676 and 1239 all of which retain approximately 100% of the original pre-European vegetation extent.

5.3.2 Position Statement No. 3

Terrestrial Biological Surveys as an Element of Biodiversity Protection establishes that the EPA has adopted the definition and principles of biological diversity as defined in the *National Strategy for the Conservation of Australia's Biological Diversity* (Commonwealth of Australia, 1996), and has stipulated the following requirements:

- The quality of information and scope of field surveys should meet standards, requirements and protocols as determined and published by the EPA; and
- The IBRA regionalisation's should be used as the largest unit for Environmental Impact assessment (EIA) decision-making in relation to the conservation of biodiversity.

Pursuant to the IBRA regionalisation's, 26 bioregions in WA, which are affected by a range of different threatening processes and have varying levels of sensitivity to impact, have been identified. Terrestrial biological surveys should provide sufficient information to address both biodiversity conservation and ecological functional values within the context of proposals and the results of surveys should be publicly available.

The flora survey was planned and implemented as far as practicable according to the EPA Guidance Statement No. 51 *Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia* (EPA, 2004). Also, the IBRA regionalisations have been used in preparing the report to identify the conservation status of the area and identify the main threats to the biodiversity of plant taxa in the region.

5.4 Native Vegetation Clearing Principles

Based on the outcomes from the survey undertaken, as presented in this report, BC provides the following comments regarding the native vegetation clearing principles (relevant to vegetation only) listed under Schedule 5 of the EP Act (Table 54).

Table 54: Assessment of development within the Gruyere Borefields survey area against native vegetation clearing principles

Letter	Principle	Assessment	Outcome
(a)	Native vegetation should not be cleared if it comprises a high level of biological diversity.	Vegetation identified within the survey area is not considered to be of high biological diversity, and is well represented outside of the proposed impact area.	Development within the Gruyere Borefields survey area is unlikely to be at variance to this principle
(c)	Native vegetation should not be cleared if it includes, or is necessary for the continued existence of rare flora.	No Threatened Flora taxa, pursuant to subsection (2) of section 23F of the *Wildlife Conservation Act 1950* and the *EPBC Act 1999* were identified within the survey area	Development within the Gruyere Borefields survey area is unlikely to be at variance to this principle
(d)	Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of a threatened ecological community (TEC).	No TEC listed under the *EPBC Act 1999* or by the DPaW occur within the survey area.	Development within the Gruyere Borefields survey area is unlikely to be at variance to this principle
(e)	Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared	According to DAFWA (2011), the survey area occurs in pre-European Beard vegetation associations Great Victoria Desert 18, 24, 45, 84, 85, 239, 676 and 1239 all of which retain approximately 100% of the original pre-European vegetation extent in the Shield (GVD1) and Central (GVD2) subregions, all of which retain approximately 100% of the original vegetation extent.	Development within the Gruyere Borefields survey area is unlikely to be at variance to this principle
(f)	Native vegetation should not be cleared if it is growing, in, or in association with, an environment associated with a watercourse or wetland	According to the Geoscience Australia GIS database, a river/stream (non-perennial/intermittent) intersects the survey area within the Open tree mallee of *Eucalyptus concinna* over low scrub of *Melaleuca interioris* and low grass of *Eragrostis pergracilis* in drainage depression (DD-MWS1) vegetation community of the Yeo Borefield. The survey area also intersects several small playas within Low woodland of *Acacia aptaneura/ A. incurvaneura* over scrub of *A. tetragonophylla/ Melaleuca interioris* and open low grass of *Eragrostis falcata* in playa (CD-AFW2) vegetation community in the Yeo Borefield; however these playas' are not listed on Geoscience Australia GIS database (Appendix 7).	Development within the Gruyere Borefields survey area may be at variance to this principle

Letter	Principle	Assessment	Outcome
(g)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	According to DAFWA (2011), the survey area occurs in pre-European Beard vegetation associations Great Victoria Desert 18, 24, 45, 84, 85, 239, 676 and 1239 all of which retain approximately 100% of the original pre-European vegetation extent in the Shield (GVD1) and Central (GVD2) subregions, all of which retain approximately 100% of the original vegetation extent. Clearing within these vegetation associations is not likely to lead to land degradation issues such as salinity, water logging or acidic soils.	Development within the Gruyere Borefields survey area is unlikely to be at variance to this principle
(h)	Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.	The survey area is not located within a conservation area. No PEC as listed by DPaW is located within the survey area. The closest conservation area is the Yeo Lake Nature Reserve (Class A) located approximately 700m east of the survey area	Development within the Gruyere Borefields survey area is unlikely to be at variance to this principle

6 Conclusions

The Gruyere Borefields survey area comprised of forty-three broad vegetation communities. No Threatened Flora taxa, pursuant to subsection (2) of section 23F of the WC Act and the Commonwealth EPBC Act were identified within the survey area. No Priority Flora taxa as listed by DPaW were identified within the survey area.

None of the vegetation communities within the survey area were found to have National Environmental Significance as defined by the Commonwealth EPBC Act. No TEC pursuant to Commonwealth or State legislation were recorded within the survey area. None of the vegetation communities within the Gruyere survey area were found to have National Environmental Significance as defined by the Commonwealth *EPBC Act 1999*. No TEC pursuant to the Commonwealth *EPBC Act 1999* or PEC as listed by the DPaW was recorded within the project areas.

Based on field observations and analysis of hydrological information from within the survey area, two vegetation communities are potential GDE:

1. Low woodland of *Acacia aptaneura/ A. incurvaneura* over scrub of *A. tetragonophylla/ Melaleuca interioris* and open low grass of *Eragrostis falcata* in playa (CD-AFW2); and
2. Open tree mallee of *Eucalyptus concinna* over low scrub of *Melaleuca interioris* and low grass of *Eragrostis pergracilis* in drainage depression (DD-MWS1).

The Gruyere Borefields survey area is not located within any ESA or Schedule 1 Area, as described in Regulation 6 and Schedule 1, clause 4 of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*. The survey area is not located within any DPaW managed land.

One introduced taxon; *Cenchrus ciliaris* (Buffel Grass), was identified within the Gruyere Borefields survey area. According to the DAFWA it is not listed as a Declared Plant under Section 22 of the BAM Act.

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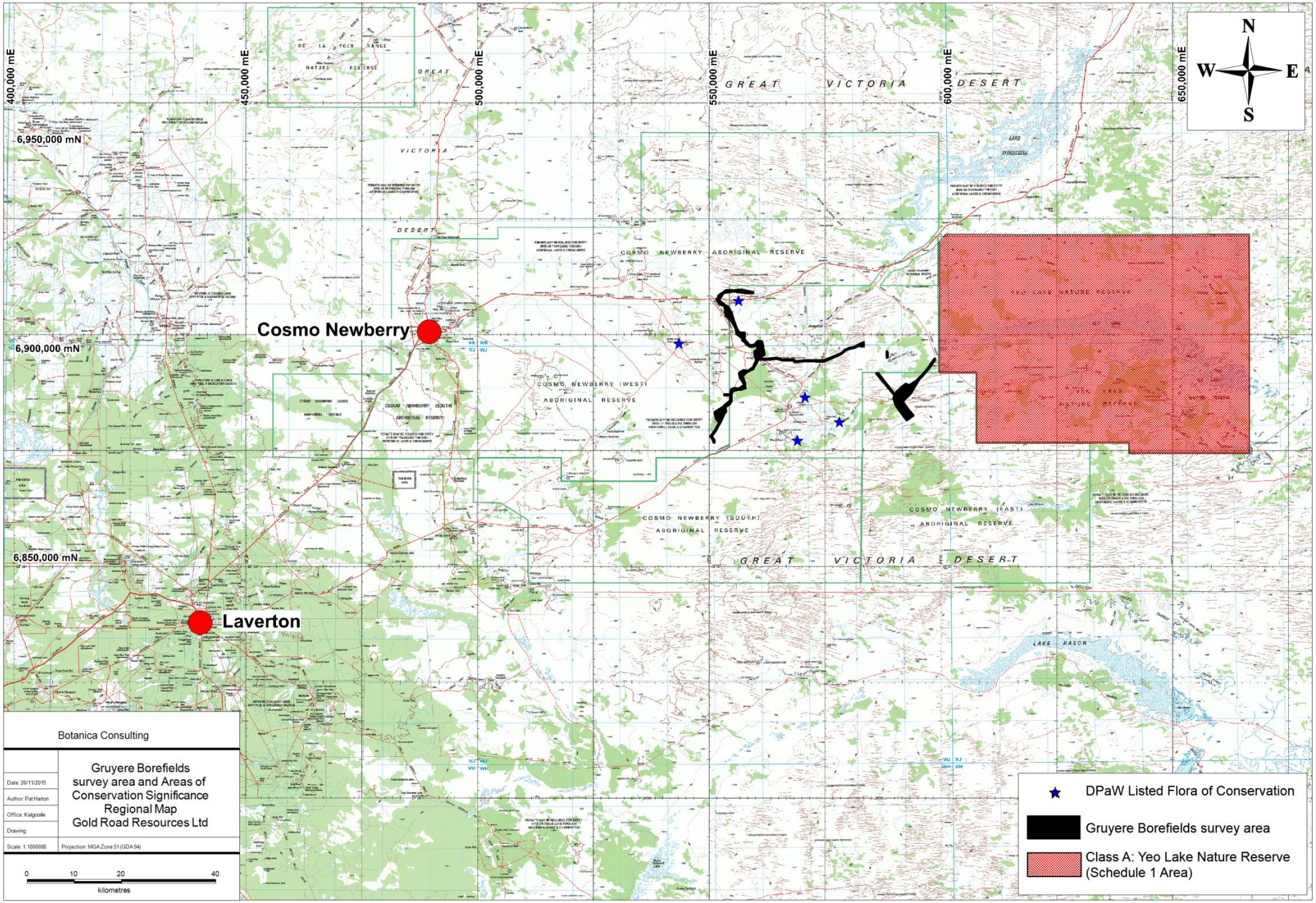
8 Appendices

Appendix 1: Regional map of the Gruyere Borefields survey area including areas of conservation significance



Appendix 2: Vegetation maps of the Gruyere Borefields survey area

Provided as a separate document.

Appendix 3: List of species identified within each vegetation community of the Gruyere Borefields survey area

(A) Denotes Annual species; (W) Denotes Introduced species; (P) Denotes Priority Flora as listed on Florabase (WAHERB, 2015)

Family	Genus	Taxon	Clay-Loam Plain			Closed Depression					Drainage Depression				Quartz/Rocky Plain							Sand Dune		Sand-Loam Plain			Sand Plain																							
			CLP-AFW1	CLP-AS1	CLP-MOW/SMS1	CD-AFW1	CD-AFW2	CD-CFS/EW1	CD-CSSSF1	CD-MWS1	DD-AFW1	DD-AOW1	DD-AOW2	DD-MWS1	QRP-AFW1	QRP-AFW2	QRP-AFW3	QRP-AFW4	QRP-CFW1	QRP-MWS1	QRP-MWS2	SD-EW/MWS1	SD-MWS1	SLP-AFW1	SLP-AFW2	SLP-RMWS1	S-AFW1	S-AFW2	S-AFW3	S-AFW4	S-AFW5	S-EW1	S-EW/MWS1	S-EW/MWS2	S-RMWS1	S-RMWS2	S-RMWS3	S-MWS4	S-MWS5	S-MWS6	S-MWS7	S-MWS8	S-RMNV1	S-RMNV2	S-RMNV3
Amaranthaceae	*Ptilotus*	*aervoides (A)*									*	*																										*							
Amaranthaceae	*Ptilotus*	*gaudichaudii* (A)	*								*																																		
Amaranthaceae	*Ptilotus*	*helipteroides* (A)	*	*	*										*	*																													
Amaranthaceae	*Ptilotus*	*holosericeus*																												*															
Amaranthaceae	*Ptilotus*	*nobilis*											*											*															*					*	
Amaranthaceae	*Ptilotus*	*obovatus*	*	*	*	*					*	*	*		*	*		*	*	*		*		*				*						*			*	*	*				*	
Amaranthaceae	*Ptilotus*	*polystachyus* (A)																														*					*							
Amaranthaceae	*Ptilotus*	*schwartzii*											*			*										*																		
Amaranthaceae	*Ptilotus*	sp. (sterile)									*																			*					*									
Apocynaceae	*Marsdenia*	*australis* (A)			*								*		*	*												*		*					*			*						
Asparagaceae	*Lomandra*	*leucocephala* subsp. *robusta*																				*																						
Asteraceae	*Brachyscome*	*ciliocarpa (A)*									*															*	*		*															
Asteraceae	*Calotis*	*multicaulis (A)*																																											
Asteraceae	*Cephalipterum*	*drummondii (A)*																	*																										
Asteraceae	*Chrysocephalum*	*apiculatum*					*																																					
Asteraceae	*Chrysocephalum*	*puteale*	*	*							*				*	*						*	*				*																	
Asteraceae	*Cratystylis*	*subspinescens*																		*				*	*																			
Asteraceae	*Olearia*	*muelleri*																	*																									
Asteraceae	*Olearia*	*pimelioides*																																									*	
Asteraceae	*Olearia*	*stuartii*																																									*	
Asteraceae	*Podolepis*	*capillaris* (A)	*												*	*																													
Asteraceae	*Rhodanthe*	*charsleyae* (A)	*				*				*		*														*			*													
Asteraceae	*Rhodanthe*	*chlorocephala* subsp. *splendida* (A)	*		*						*				*	*						*					*	*									*		*					
Asteraceae	*Schoenia*	*cassiniana (A)*					*																																					
Asteraceae	*Trichanthodium*	*skirrophorum (A)*					*																																					
Asteraceae	*Vittadinia*	*eremaea* (A)												*														*		*														
Asteraceae	*Waitzia*	*acuminata* (A)																												*														
Boraginaceae	*Halgania*	*cyanea* var. Allambi Stn (B.W. Strong 676)		*																												*	*	*			*	*		*				
Boraginaceae	*Halgania*	*cyanea* var. *charleville*																																	*	*								
Boraginaceae	*Halgania*	*integerrima*			*									*													*					*	*										
Boraginaceae	*Trichodesma*	*zeylanicum* (A)																				*																						
Boraginaceae	*Trichodesma*	*zeylanicum* (A)																				*																						
Brassicaceae	*Lepidium*	*oxytrichum* (A)	*								*																																	
Brassicaceae	*Lepidium*	*phlebopetalum* (A)	*								*																																	
Brassicaceae	*Lepidium*	*platypetalum*											*																															
Campanulaceae	*Wahlenbergia*	*tumidifructa* (A)									*																																	
Casuarinaceae	*Allocasuarina*	*helmsii*												*																														
Casuarinaceae	*Casuarina*	*pauper*						*								*			*		*																						
Celastraceae	*Stackhousia*	*muricata* subsp. annual (W.R. Barker 2172) (A)	*	*							*	*			*	*						*																						
Chenopodiaceae	*Atriplex*	*bunburyana*				*				*				*					*	*	*			*	*																		
Chenopodiaceae	*Atriplex*	*vesicaria*						*			*	*																																
Chenopodiaceae	*Chenopodium*	*curvispicatum*						*													*																						
Chenopodiaceae	*Dysphania*	*kalpari* (A)																														*												

Chenopodiaceae	*Enchylaena*	*lanata*								*		*											*																					
Chenopodiaceae	*Enchylaena*	*tomentosa*																																				*						
Chenopodiaceae	*Eriochiton*	*sclerolaenoides*													*																													
Chenopodiaceae	*Maireana*	*carnosa*											*					*			*																							
Chenopodiaceae	*Maireana*	*convexa*											*		*																													
Chenopodiaceae	*Maireana*	*georgei*	*	*	*						*	*	*					*	*					*	*																		*	
Chenopodiaceae	*Maireana*	*glomerifolia*		*											*																													
Chenopodiaceae	*Maireana*	*integra*			*	*															*																								
Chenopodiaceae	*Maireana*	*pentatropis*																			*			*																					
Chenopodiaceae	*Maireana*	*planifolia*									*	*									*					*																			
Chenopodiaceae	*Maireana*	*pyramidata*									*	*												*	*																				
Chenopodiaceae	*Maireana*	*thesioides*	*		*						*		*														*	*		*						*									
Chenopodiaceae	*Maireana*	*tomentosa*																	*		*																								
Chenopodiaceae	*Maireana*	*triptera*			*						*	*	*		*	*								*	*																				
Chenopodiaceae	*Rhagodia*	*eremaeum*			*			*			*	*	*		*			*						*	*			*											*						
Chenopodiaceae	*Rhagodia*	*preissii* subsp. *preissii*																														*	*												
Chenopodiaceae	*Salsola*	*australis* (A)	*	*									*		*																							*		*					
Chenopodiaceae	*Sclerolaena*	*cuneata*															*		*		*																								
Chenopodiaceae	*Sclerolaena*	*densiflora*	*	*							*	*	*		*																														
Chenopodiaceae	*Sclerolaena*	*diacantha*	*	*	*						*	*	*		*							*			*	*														*					
Chenopodiaceae	*Sclerolaena*	*eriacantha*											*				*		*																										
Chenopodiaceae	*Sclerolaena*	*parviflora*												*	*											*																			
Chenopodiaceae	*Tecticornia*	*disarticulata*								*	*	*																																	
Chenopodiaceae	*Tecticornia*	*halocnemoides*							*																																				
Chenopodiaceae	*Tecticornia*	*indica* subsp. *Biden*							*																																				
Chenopodiaceae	*Tecticornia*	*undulata*							*																																				
Colchicaceae	*Wurmbea*	*deserticola*																									*					*			*		*			*					
Convolvulaceae	*Bonamia*	*erecta*																														*	*	*			*					*			
Convolvulaceae	*Convolvulus*	*remotus*	*	*																										*															
Cupressaceae	*Callitris*	*preissii*																				*										*	*												
Cyperaceae	*Fimbristylis*	*dichotoma*																												*															
Ericaceae	*Leucopogon*	*?cuneifolius*																														*	*												
Euphorbiaceae	*Euphorbia*	*drummondii* (A)	*								*		*		*	*						*					*																	*	
Euphorbiaceae	*Euphorbia*	*tannensis*																				*	*					*	*																
Fabaceae	*Acacia*	*abrupta*																														*	*		*	*	*	*		*	*		*		
Fabaceae	*Acacia*	*aptaneura*	*				*				*		*	*	*											*				*		*				*									
Fabaceae	*Acacia*	*burkittii*		*				*					*			*			*	*	*				*	*												*							
Fabaceae	*Acacia*	*caesaneura*	*	*	*	*					*	*	*		*	*	*	*	*	*				*	*		*	*	*	*	*	*	*		*	*	*	*	*	*					
Fabaceae	*Acacia*	*colletioides*						*											*		*																							*	
Fabaceae	*Acacia*	*craspedocarpa*											*			*																	*												
Fabaceae	*Acacia*	*cuthbertsonii*																*	*	*											*						*	*	*						
Fabaceae	*Acacia*	*desertorum*																													*	*	*	*	*		*						*		*
Fabaceae	*Acacia*	*duriuscula*															*																												
Fabaceae	*Acacia*	*exocarpoides*													*	*																													
Fabaceae	*Acacia*	*grasbyi*																*													*						*								
Fabaceae	*Acacia*	*hemiteles*								*																																			
Fabaceae	*Acacia*	*incurvaneura*	*	*	*		*				*	*	*	*	*	*	*	*	*	*				*	*	*	*	*	*	*		*	*		*	*		*	*					*	
Fabaceae	*Acacia*	*jennerae*																														*	*				*			*					
Fabaceae	*Acacia*	*ligulata*		*				*												*	*	*	*	*			*		*			*	*	*	*	*	*	*	*	*		*			*
Fabaceae	*Acacia*	*mulganeura*															*																												
Fabaceae	*Acacia*	*murrayana*																				*					*						*				*					*		*	
Fabaceae	*Acacia*	*pachyacra*						*																*			*						*		*				*	*					
Fabaceae	*Acacia*	*platycarpa*																																						*					
Fabaceae	*Acacia*	*quadrimarginea*	*	*	*								*		*	*						*																*							
Fabaceae	*Acacia*	*ramulosa* var. *ramulosa*			*						*				*													*	*	*									*						
Fabaceae	*Acacia*	*stowardii*																																			*								
Fabaceae	*Acacia*	*tetragonophylla*	*		*		*				*		*		*	*			*	*								*							*	*			*						
Fabaceae	*Acacia*	*victoriae*											*																																

Fabaceae	*Daviesia*	*benthamii*																																			*					
Fabaceae	*Daviesia*	*purpurascens*																			*																						
Fabaceae	*Daviesia*	*ulicifolia*																			*	*																					
Fabaceae	*Leptosema*	*chambersii*																								*		*			*	*		*	*	*	*						*	*	*
Fabaceae	*Senna*	*artemisioides* subsp. *filifolia*	*	*	*	*	*	*			*	*	*	*	*			*	*	*		*		*	*	*						*	*		*	*		*	*	*					
Fabaceae	*Senna*	*artemisioides* subsp. *helmsii*	*	*									*		*	*																													
Fabaceae	*Senna*	*artemisioides* subsp. x *artemisioides*	*	*	*		*				*	*	*		*	*											*	*						*	*			*	*	*					
Fabaceae	*Senna*	*cardiosperma*																												*								*			*			
Fabaceae	*Senna*	*pleurocarpa* var. *angustifolia*											*																														
Fabaceae	*Senna*	sp. Meekatharra (E. Bailey 1-26)																*																									
Frankeniaceae	*Frankenia*	*georgei*									*	*			*																													
Frankeniaceae	*Frankenia*	*interioris* var. *parviflora*				*																																					
Frankeniaceae	*Frankenia*	*setosa*						*		*										*						*																			
Geraniaceae	*Erodium*	*crinitum*									*																			*															
Goodeniaceae	*Brunonia*	*australis* (A)											*																					*	*									
Goodeniaceae	*Dampiera*	*ramosa*																					*																					
Goodeniaceae	*Goodenia*	*centralis (A)*																								*								*	*									
Goodeniaceae	*Goodenia*	*mimuloides (A)*																								*			*							*								
Goodeniaceae	*Goodenia*	*ramelii*																			*																						
Goodeniaceae	*Goodenia*	sp. (sterile) (A)																											*															
Goodeniaceae	*Goodenia*	*xanthosperma*																								*					*	*				*								
Goodeniaceae	*Scaevola*	*basedowii*																			*											*												
Goodeniaceae	*Scaevola*	*parvifolia*																		*											*	*				*	*						*	
Goodeniaceae	*Scaevola*	*spinescens*	*	*	*										*	*		*	*	*				*				*				*						*	*						
Gyrostemonaceae	*Codonocarpus*	*cotinifolius*												*									*																				*		
Gyrostemonaceae	*Gyrostemon*	*ramulosus*																			*	*										*												
Haloragaceae	*Glischrocaryon*	*aureum*																													*	*												
Haloragaceae	*Haloragis*	*odontocarpa*(A)	*	*	*						*	*			*	*						*					*	*	*	*							*			*						
Hemerocallidaceae	*Corynotheca*	*micrantha* var. *divaricata*																			*	*																					
Hemerocallidaceae	*Dianella*	*revoluta*											*						*							*																			
Lamiaceae	*Dicrastylis*	*doranii*																				*				*					*	*				*	*							
Lamiaceae	*Dicrastylis*	*exsuccosa*																																								*	*	
Lamiaceae	*Dicrastylis*	*sessilifolia*																													*	*				*						*		
Lamiaceae	*Microcorys*	*macrediana*																								*						*	*			*					*			
Lamiaceae	*Newcastelia*	*hexarrhena*																																							*	*		
Lamiaceae	*Prostanthera*	*campbellii*	*		*											*	*											*																	
Lamiaceae	*Prostanthera*	*wilkieana*		*												*												*											*						
Lamiaceae	*Spartothamnella*	*teucriiflora*	*		*						*													*			*	*		*		*				*			*						
Lamiaceae	*Westringia*	*rigida*												*					*		*																								
Lamiaceae	*Pityrodia*	*loricata*																				*																						
Loranthaceae	*Amyema*	*fitzgeraldii*											*																													*		
Loranthaceae	*Amyema*	*miquelii*																													*	*												
Malvaceae	*Abutilon*	*cryptopetalum*																									*									*								
Malvaceae	*Abutilon*	*otocarpum*									*											*					*																		
Malvaceae	*Alyogyne*	*pinoniana*												*								*	*	*								*	*	*				*	*	*					*	
Malvaceae	*Androcalva*	*loxophylla*																															*	*		*								*
Malvaceae	*Androcalva*	*luteiflora*																																*		*								
Malvaceae	*Brachychiton*	*gregorii*											*																													*		
Malvaceae	*Commersonia*	*craurophylla*																																*		*					*	*		
Malvaceae	*Hibiscus*	*burtonii*																													*	*												
Malvaceae	*Keraudrenia*	*integrifolia*																																		*								*
Malvaceae	*Keraudrenia*	*prorepens*																																*	*		*							
Malvaceae	*Keraudrenia*	*velutina*																			*					*						*	*	*	*		*							

Malvaceae	*Lawrencia*	*glomerata*							*	*																																				
Malvaceae	*Sida*	*calyxhymenia*	*	*	*										*													*				*	*													
Malvaceae	*Sida*	*cardiophylla*																*		*																								*		
Malvaceae	*Sida*	*fibulifera*	*								*	*																	*																
Malvaceae	*Sida*	*intricata*		*							*	*																	*																
Malvaceae	*Sida*	sp. (sterile)																											*																
Malvaceae	*Sida*	sp. Excedentifolia (J.L. Egan 1925)	*	*	*						*	*	*		*	*												*	*						*	*								
Malvaceae	*Sida*	sp. spiciform panicles (E. Leyland s.n. 14/8/90)																*	*		*																						*		
Myrtaceae	*Aluta*	*maisonneuvei* subsp. *auriculata*																		*	*							*		*	*	*	*	*	*	*	*			*	*	*		*
Myrtaceae	*Baeckea*	sp. Great Victoria Desert																																								*	*		
Myrtaceae	*Calothamnus*	*aridus*																						*					*															
Myrtaceae	*Eucalyptus*	*comitae-vallis*																																		*									
Myrtaceae	*Eucalyptus*	*concinna*						*										*	*	*				*		*									*	*	*	*				*		
Myrtaceae	*Eucalyptus*	*?concinna*												*																															
Myrtaceae	*Eucalyptus*	*eremicola*											*																								*								
Myrtaceae	*Eucalyptus*	*glomerosa*																			*										*	*	*											
Myrtaceae	*Eucalyptus*	*gongylocarpa*																			*	*									*	*	*	*		*	*		*					
Myrtaceae	*Eucalyptus*	*gypsophila*						*		*										*																									
Myrtaceae	*Eucalyptus*	*hypolaena*																																										*		
Myrtaceae	*Eucalyptus*	*leptopoda* subsp. *elevata*		*																	*															*						*	*	*		
Myrtaceae	*Eucalyptus*	*lucasii*			*		*									*				*	*		*		*	*	*										*							
Myrtaceae	*Eucalyptus*	*mannensis*																																				*								
Myrtaceae	*Eucalyptus*	*?mannensis*												*																															
Myrtaceae	*Eucalyptus*	*rigidula*																			*				*																				
Myrtaceae	*Eucalyptus*	*trivalva*																		*											*	*											*		
Myrtaceae	*Eucalyptus*	*rigidula*																			*				*																				
Myrtaceae	*Eucalyptus*	*trivalva*																		*											*	*											*		
Myrtaceae	*Eucalyptus*	*youngiana*			*		*														*	*				*		*	*		*	*	*	*	*	*	*		*	*	*		*	*
Myrtaceae	*Melaleuca*	*interioris*						*						*									*		*			*		*														
Myrtaceae	*Melaleuca*	*xerophila*						*																																					
Myrtaceae	*Micromyrtus*	*flaviflora*																										*			*	*	*	*	*	*			*	*	*		*
Nyctaginaceae	*Boerhavia*	*coccinea*			*													*																										
Oleaceae	*Jasminum*	*didymum* subsp. *lineare*																			*				*							*	*			*				*				
Pittosporaceae	*Pittosporum*	*angustifolium*																			*			*								*	*							*				
Poaceae	*Aristida*	*contorta* (A)	*	*	*						*	*	*		*	*					*				*	*														*				
Poaceae	*Aristida*	*holathera* (A)																			*	*										*				*				*				
Poaceae	*Austrostipa*	*elegantissima*																	*																										
Poaceae	*Cenchrus*	*ciliaris* (W)																						*																				
Poaceae	*Enneapogon*	*caerulescens*		*	*								*			*					*				*																		
Poaceae	*Enteropogon*	*ramosus*									*	*						*			*																							
Poaceae	*Eragrostis*	*eriopoda*	*	*	*	*		*			*	*	*	*	*	*	*		*				*		*	*		*	*	*	*		*			*	*	*				*		
Poaceae	*Eragrostis*	*falcata*					*																																					
Poaceae	*Eragrostis*	*pergracilis*																		*				*																				
Poaceae	*Eragrostis*	*setifolia*									*	*								*																								
Poaceae	*Eriachne*	*mucronata*		*	*										*	*												*																
Poaceae	*Eriachne*	*pulchella* (A)		*	*										*	*										*																		
Poaceae	*Monachather*	*paradoxus*	*	*							*					*					*				*	*		*																
Poaceae	*Themeda*	*triandra*											*	*																														
Poaceae	*Triodia*	*basedowii*				*		*						*							*	*	*	*		*		*				*	*	*	*	*	*		*	*	*	*	*	*
Poaceae	*Triodia*	*desertorum*			*												*	*	*	*	*		*																		*	*		
Poaceae	*Triodia*	*irritans*		*	*												*	*	*	*	*	*				*	*	*	*	*	*	*	*	*	*	*						*
Poaceae	*Triodia*	*rigidissima*																											*														*		
Poaceae	*Triraphis*	*mollis*				*								*										*																				
Polygonaceae	*Duma*	*florulenta*																						*																				
Portulacaceae	*Calandrinia*	sp. sterile (A)	*								*					*												*																

Proteaceae	*Grevillea*	*acacioides*																				*													*	*									
Proteaceae	*Grevillea*	*berryana*											*											*		*																			
Proteaceae	*Grevillea*	*didymobotrya* subsp. *didymobotrya*		*																									*												*		*		*
Proteaceae	*Grevillea*	*juncifolia* subsp. *juncifolia*																				*	*										*	*				*	*				*		
Proteaceae	*Grevillea*	*nematophylla* subsp. *suprapl ana*																																			*								
Proteaceae	*Grevillea*	*pterosperma*																				*										*	*	*	*								*			
Proteaceae	*Hakea*	*francisiana*																				*										*	*	*	*				*		*					
Proteaceae	*Hakea*	*lorea*		*																						*	*		*						*	*				*		*			
Proteaceae	*Hakea*	*multilineata*																																											*
Pteridaceae	*Cheilanthes*	*sieberi* subsp. *sieberi*			*		*				*				*	*	*										*			*						*									
Rubiaceae	*Psydrax*	*latifolia*			*						*		*		*	*											*	*	*	*							*								
Santalaceae	*Anthobolus*	*leptomerioides*			*																							*																	
Santalaceae	*Exocarpos*	*aphyllus*								*								*	*		*				*								*				*			*	*				*
Santalaceae	*Exocarpos*	*sparteus*																				*										*	*	*	*	*	*	*							*
Santalaceae	*Santalum*	*acuminatum*																																							*			
Santalaceae	*Santalum*	*lanceolatum*											*																													*		
Santalaceae	*Santalum*	*spicatum*		*									*			*			*					*																*					
Sapindaceae	*Alectryon*	*oleifolius*						*											*					*																*					
Sapindaceae	*Dodonaea*	*adenophora*																																						*					
Sapindaceae	*Dodonaea*	*lobulata*																																					*						
Sapindaceae	*Dodonaea*	*rigida*	*	*											*	*																													
Sapindaceae	*Dodonaea*	*viscosa* subsp*. angustissima*																				*																							
Scrophulariaceae	*Eremophila*	*abietina* subsp. *ciliata*															*																												
Scrophulariaceae	*Eremophila*	*alternifolia*		*												*																													
Scrophulariaceae	*Eremophila*	*clarkei*									*	*	*					*				*			*		*												*						
Scrophulariaceae	*Eremophila*	*drummondii*															*																												
Scrophulariaceae	*Eremophila*	*exilifolia*	*													*						*																							
Scrophulariaceae	*Eremophila*	*forrestii* subsp. *forrestii*			*								*									*								*		*	*	*	*		*		*			*			*
Scrophulariaceae	*Eremophila*	*fraseri*															*																												
Scrophulariaceae	*Eremophila*	*georgei*																*																											
Scrophulariaceae	*Eremophila*	*gilesii*									*					*												*		*							*								
Scrophulariaceae	*Eremophila*	*glabra*		*										*				*	*					*		*			*				*		*		*	*	*	*					*
Scrophulariaceae	*Eremophila*	*homoplastica*			*										*	*											*	*		*															
Scrophulariaceae	*Eremophila*	*latrobei* subsp. *glabra*	*	*	*										*		*					*					*	*	*						*	*	*	*		*					
Scrophulariaceae	*Eremophila*	*latrobei* subsp. *latrobei*	*		*						*	*	*		*	*									*		*	*	*	*		*		*											
Scrophulariaceae	*Eremophila*	*longifolia*												*					*					*	*	*								*	*			*						*	
Scrophulariaceae	*Eremophila*	*maculata* subsp. *brevifolia*				*																		*																					
Scrophulariaceae	*Eremophila*	*malacoides*				*																			*																				
Scrophulariaceae	*Eremophila*	*margarethae*											*				*	*																										*	
Scrophulariaceae	*Eremophila*	*oldfieldii* subsp. *angustifolia*	*	*											*																														
Scrophulariaceae	*Eremophila*	*paisleyi* subsp*. paisleyi*											*													*																			
Scrophulariaceae	*Eremophila*	*platycalyx* subsp. *platycalyx*																			*				*																				
Scrophulariaceae	*Eremophila*	*platythamnos* subsp. *platythamnos*		*												*						*										*	*	*					*	*					*
Scrophulariaceae	*Eremophila*	*punctata*															*																												
Scrophulariaceae	*Eremophila*	*scoparia*	*							*					*				*	*				*																					
Scrophulariaceae	*Eremophila*	*serrulata*	*	*							*	*			*									*																					
Scrophulariaceae	*Eremophila*	*spectabilis*													*																														
Solanaceae	*Anthotroche*	*pannosa*																				*	*									*	*	*			*					*			*
Solanaceae	*Duboisia*	*hopwoodii*																				*																							

Solanaceae	*Lycium*	*australe*				*				*																																			
Solanaceae	*Nicotiana*	*rosulata* subsp. *rosulata* (A)	*		*											*														*						*									
Solanaceae	*Solanum*	*centrale*			*																						*					*	*		*	*									
Solanaceae	*Solanum*	*ferocissimum*														*		*	*																										
Solanaceae	*Solanum*	*lasiophyllum*	*	*	*	*					*	*	*		*	*			*		*	*		*			*	*	*	*		*	*		*	*		*	*	*				*	
Solanaceae	*Solanum*	*nummularium*				*													*					*																				*	
Solanaceae	*Solanum*	*orbiculatum*	*	*		*					*				*				*					*			*								*	*		*							
Solanaceae	*Solanum*	*plicatile*											*	*										*											*										
Solanaceae	*Solanum*	sp. (sterile)	*								*																																		
Thymelaeaceae	*Pimelea*	*microcephala*				*													*																										
Zygophyllaceae	*Tribulus*	*astrocarpus* (A)	*																																										
Zygophyllaceae	*Zygophyllum*	*eremaeum* (A)	*	*											*	*					*	*							*									*							
Zygophyllaceae	*Zygophyllum*	*iodocarpum* (A)						*		*																																			

Appendix 4: DPaW Threatened Flora Database search results within 40km (DPaW, 2015b)

Taxon	Conservation Code	Description (WAHERB, 2015)
Comesperma viscidulum	4	Shrub, to ca 0.7 m high.
Conospermum toddii	4	Spreading shrub, 1.2-2 m high. Fl. white/white-yellow, Jul to Oct. Yellow sand. Sand dunes.
Grevillea secunda	4	Low spreading shrub, 0.3-0.8 m high. Fl. red, Sep to Oct. Yellow or red sand. Sand dunes, sandplains.
Sauropus ramosissimus	3	Slender, much-branched shrub, to 0.3 m high.

Appendix 5: Muir Life Form/Height Class (Muir, 1977).

LIFE FORM/HEIGHT CLASS	CANOPY COVER			
	DENSE 70% -100%	**MID-DENSE 30% -70%**	**SPARSE 10% -30%**	**VERY SPARSE 2% -10%**
Trees > 30m Trees 15 – 30m Trees 5 – 15m Trees < 5m	Dense Tall Forest Dense Forest Dense Low Forest A Dense Low Forest B	Tall Forest Forest Low Forest A Low Forest B	Tall Woodland Woodland Low woodland A Low Woodland B	Open Tall Woodland Open Woodland Open Low Woodland A Open Low Woodland B
Mallee Tree Form Mallee Shrub Form	Dense Tree Mallee Dense Shrub Mallee	Tree Mallee Shrub Mallee	Open Tree Mallee Open Shrub Mallee	Very Open Tree Mallee Very Open Shrub Mallee
Shrubs > 2m Shrubs 1.5 – 2m Shrubs 1 – 1.5m Shrubs 0.5 – 1m Shrubs 0 – 0.5m	Dense Thicket Dense Heath A Dense Heath B Dense Low Heath C Dense Low Heath D	Thicket Heath A Heath B Low Heath C Low Heath D	Scrub Low Scrub A Low Scrub B Dwarf Scrub C Dwarf Scrub D	Open Scrub Open Low Scrub A Open Low Scrub B Open Dwarf Scrub C Open Dwarf Scrub D
Mat Plants Hummock Grass Bunch grass >0.5m Bunch grass < 0.5m Herbaceous spp.	Dense Mat Plants Dense Hummock Grass Dense Tall Grass Dense Low Grass Dense Herbs	Mat Plants Mid-dense Hummock Grass Tall Grass Low Grass Herbs	Open Mat Plants Hummock Grass Open Tall Grass Open Low Grass Open Herbs	Very Open Mat Plants Open Hummock Grass Very Open Tall Grass Very Open Low Grass Very Open Herbs
Sedges > 0.5m Sedges < 0.5m	Dense Tall Sedges Dense Low Sedges	Tall Sedges Low Sedges	Open Tall Sedges Open Low Sedges	Very Open Tall Sedges Very Open Low Sedges
Ferns Mosses, liverworts	Dense ferns Dense Mosses	Ferns Mosses	Open Ferns Open Mosses	Very Open Ferns Very Open Mosses

Appendix 6: Keighery Health rating scale (1994).

Health Description	Definition
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
Very Good	Vegetation structure altered obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as “parkland cleared’ with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix 7: Water Courses within the Gruyere Borefields survey area (Geoscience Australia).