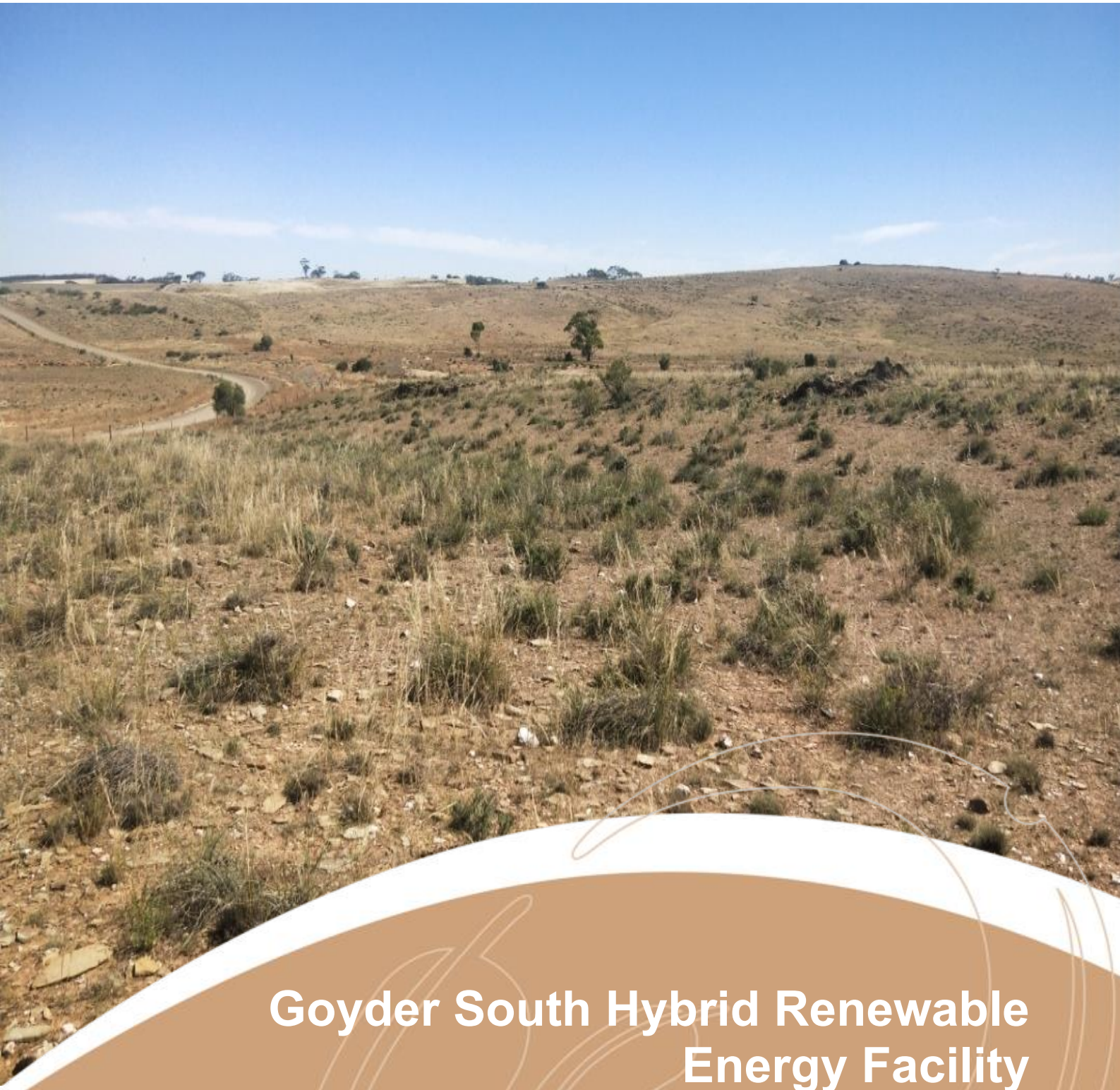

Goyder South Hybrid Renewable Energy Facility

Flora and Fauna Assessment Addendum

Goyder South Hybrid Renewable Energy Facility Flora and Fauna Assessment Addendum

29 July 2021

Version 2

Prepared by EBS Ecology for Neoen Australia Pty Ltd

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GLOSSARY AND ABBREVIATION OF TERMS

BAM	Bushland Assessment Methodology
DEW	Department for Environment and Water
DEWR	Department for Environment and Water Resources (Australian Government)
EBS	Environmental and Biodiversity Services
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ha	hectare(s)
INTG	Iron-grass Natural Temperate Grassland
Neoen	Neoen Australia Pty Ltd
NPW Act	*National Parks and Wildlife Act 1972*
NVC	Native Vegetation Council
SEB	Significant Environmental Benefit
sp.	Species
spp.	Species (plural)
TEC	Threatened Ecological Community
The Project	Goyder South Hybrid Renewable Energy Project (also referred to as Goyder South)
VA(s)	Vegetation Association(s)

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1 INTRODUCTION

Neoen Australia Pty Ltd (Neoen) has undertaken feasibility studies for the Goyder Renewables Zone (GRZ) development, which has been separated into two projects that will be developed and constructed separately. The first project, Goyder South Hybrid Renewable Energy Facility (Goyder South), will be connected to the existing Robertstown substation, with project construction expected to commence from late 2021 onwards. Neoen was granted Development Approval for the Goyder South Hybrid Renewable Energy Facility on 3rd March 2021.

In 2019 EBS Ecology (EBS) was engaged by Neoen to undertake the initial ecological assessments, identify any potential impacts of the Project and to propose options and recommendations for mitigation where potential impacts have been identified. The initial field work was undertaken over two sessions, in both autumn and spring 2019 and aimed at surveying and recording:

- Native vegetation, targeting Threatened Ecological Communities (TECs) known to occur in the region, including Iron-grass Natural Temperate Grassland of South Australia (INTG) TEC and Peppermint Box (*Eucalyptus odorata*) Grassy Woodland of South Australia (Peppermint Box) TEC;
- Presence of threatened flora and fauna, in particular Pygmy Blue-tongue Lizards (*Tiliqua adelaidensis*);
- Occupancy and activity of birds, including Wedge-tailed Eagles (*Aquila audax*) and their nesting sites; and
- Broad Vegetation Associations (VAs), which were mapped over the Project Area.

Field assessments were undertaken prior to establishment of a detailed design layout, and before all necessary negotiations with private land holders had been completed. Environmental conditions at the time of survey were noted to be very poor, with neither Peppermint Box or INTG, meeting the listing criteria for a TEC (which is protected by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)) within the Project Area at the time of survey.

The *Goyder South Hybrid Renewable Energy Facility: Flora and Fauna Assessment* (EBS Ecology 2020) noted that it was expected that enough native species / lifeforms could occur within both potential TECs to qualify (and be protected by the EPBC Act), and as such, recommended to:

- Avoid impacting areas mapped as INTG or Peppermint Box;
- Where unavoidable, undertake targeted surveys to determine if patches of INTG qualify as TEC's prior to construction taking place; and
- Survey properties that were unable to be accessed as part of the initial ecological assessment work (portions of the western boundary and south-east section of the Project Area).

Subsequent to these recommendations, in December 2020 and following substantial rainfall throughout the preceding spring, a supplementary field survey was undertaken to re-assess twelve previously mapped INTG areas to determine if they qualify as the EPBC Act listed TEC, and broadly map VAs across land not surveyed in the initial assessment (Figure 1).

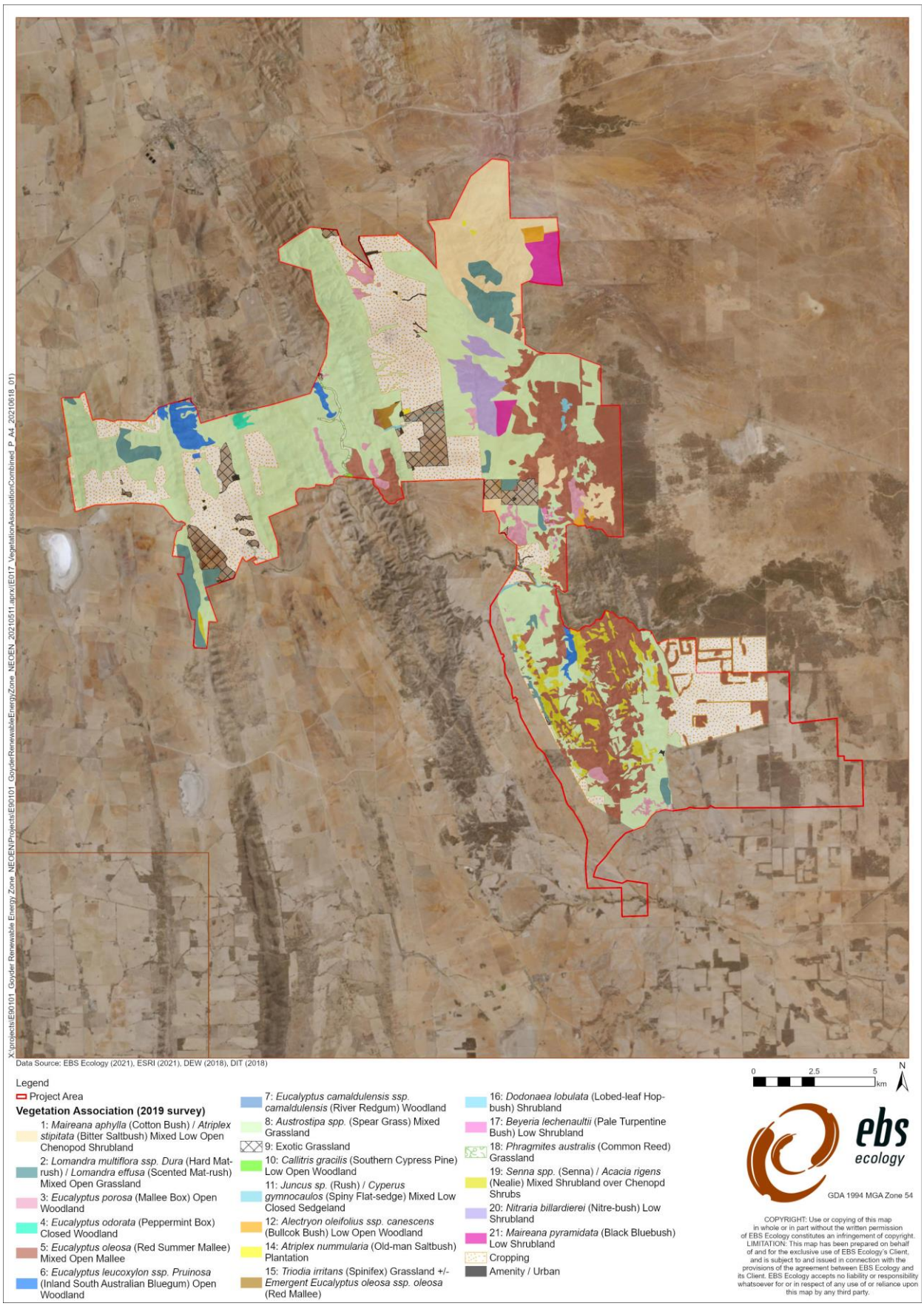

Figure 1. Vegetation associations mapped in the initial assessment (2020), showing locations of INTG (teal) and unmapped properties (no colour).

2 METHOD

2.1 Targeted survey of areas previously mapped as INTG

Targeted surveys were undertaken in areas previously mapped as INTG to determine if they qualified as the EPBC Act listed INTG TEC following improved seasonal conditions.

Surveys followed the criteria outlined in the *EPBC Act Policy Statement 3.7: Peppermint Box (Eucalyptus odorata) Grassy Woodland of South Australia and Iron-grass Natural Temperate Grassland of South Australia* (EPBC Act Policy Statement; DEWR 2007).

Condition Classes for each patch of INTG surveyed were determined by searching for and recording all species found within a 50 x 50 metre (m) (or equivalent 2,500m^2) quadrat within a representative area of each patch. All species observed within the quadrats were then categorised (i.e. broad-leaved herbaceous plant, perennial grass / tussock, disturbance resistant species) and compared against the benchmark criteria outlined in the EPBC Act Policy Statement (DEWR 2007).

2.2 Field survey within areas not previously assessed

A field survey was undertaken to determine broad vegetation associations (VAs) on properties along the southern and western boundary of the Project Area which were not assessed in the initial Flora and Fauna Assessment (EBS Ecology 2020).

The survey focused on ground-truthing and building on from the broad Department for Environment and Water (DEW) floristic mapping found on NatureMaps. VAs were mapped according to the dominant overstorey species present. The dominant flora species within each vegetation stratum (overstorey, midstorey and understorey) were recorded, as well as the presence of threatened species and declared or significant weed species.

2.3 Limitations

Given the size of the Project Area, the scope to broadly map vegetation associations, and the need for detailed vegetation assessments in the future, not all flora species within the assessed area were recorded. Once the design layout is final including wind turbine placement and associated infrastructure, a specific vegetation assessment based on the Bushland Assessment Methodology (BAM) (NVC 2020) will need to be undertaken across the Project Area. The BAM is endorsed by the Native Vegetation Council (NVC) and used to assess areas of native vegetation requiring clearance and calculate the Significant Environmental Benefit (SEB) requirements for the Project.

Due to the scale of the assessment area, and limited survey time, sites were mapped based on a 1 hectare (ha) survey site within each patch and are not necessarily representative of the condition of the whole area included as part of a patch. Variation in quality of the INTG may occur within a contiguous patch, and therefore, survey sites were selected based on a visual assessment of higher quality areas, allowing ‘worst case scenario’ mapping.

3 RESULTS

3.1 INTG TEC

The *National Recovery Plan for the Iron-grass Natural Temperate Grassland of South Australia ecological community, 2012* (Turner 2012) lists a set of criteria for which an ecological community must be assessed in order to determine if they are of sufficient quality to qualify as listed TEC (protected by the EPBC Act) or have potential for rehabilitation (Table 1).

Table 1. Criteria for listing INTG as a Threatened Ecological Community.

Condition class	Minimum size	Diversity of native species[1]	No. broad-leaved herbaceous species[1] in addition to identified disturbance resistant species[2]	No. perennial grass species[1]	Tussock count[3]
Listed ecological community					
A	0.1ha	>30	+10	>5	1/m
B	0.25ha	>15	+3	>4	1/m
Degraded patches amenable to rehabilitation					
C	No minimum	>5	No minimum	>1	No minimum

Areas of Condition Class A are considered the highest quality representation of the community. Condition Class B areas are also of high quality, but do not have the native species diversity of Condition Class A. Classes A and B are indicative of the listed ecological community. Condition Class C areas are typically significantly degraded (low condition), are not included as the listed ecological community and therefore do not trigger the 'significant test' of the EPBC Act. Condition Class C areas are still considered to be amenable to rehabilitation through measures such as weed control, natural regeneration and protection from grazing.

Fifteen sites (862.61 ha) previously mapped as INTG of insufficient quality to list as a TEC were re-assessed in December 2020 (Table 2). Ten sites (542.91 ha) were deemed to be Class B, while four sites were deemed to be Class C (319.7 ha) (Figure 2). One site (site 5) was not revisited in 2020 but has been mapped as condition Class B based on the improved condition of other INTG patches across the Project Area (Table 2; Figure 2).

An area of INTG previously mapped as Class B in 2012 (EBS Ecology 2020) was revisited in December 2020 and determined to be of condition Class C, and therefore combined into patch 13 for the purpose of mapping.

Table 2. Condition class rating of INTG re-assessed in December 2020.

Patch ID	Area (ha)	Condition Class	Diversity of native species (min)	Broad-leaved herbaceous species (min. excluding disturbance resistant sp)	Perennial grass species (min)	Comments
1	35	B	17	7	5	*Lomandra effusa* good density and regenerating. Diversity of native vegetation on rocky site. Very few weed species and low density. Intact cryptogam layer.
2 and 3	23.48 and 3.3	B	22	9	7	High density of Lomandra sp., diversity of native species present, but in low density. Patch extended to include an additional 0.51 ha (patch 23).
4	5.71	B	15	5	6	Extension of already mapped patch. Degraded patch, evidence of heavy grazing (bare soil, limited cryptogamic crust). Little regeneration of Lomandra, in poor condition. High weed density including *Hordeum, Carthamus and Avena.*
5	15.47	B	NA	NA	NA	Not re-assessed in December 2020. Mapped as Class B based on improved condition of other patches in area.
6 and 7	3.54 and 44.26	B	15	7	7	Relatively sparse *Lomandra multiflora,* occurring in clumps, some regeneration visible. At least 15 native species counted.
8	178.86	B	21	8	8	Widespread on mid to upper hill slope, intermixed with Spinifex (*Triodia sp.)* and Kangaroo Grass (*Themeda triandra*).
9	19.2	B	17	6	4	Regeneration of *Lomandra multiflora*, dense and variable in size. Few weeds except thistle sp. (*Carthamus and Silybum*).
10	28.4	C	9	2	4	Bare open grassland, good Lomandra density and crust layer, few herbaceous species. Few weeds except *Carthamus* and *Lepidium*.
11	23.39	C	9	2	4	Very low density of Lomandra, mostly *Austrostipa* grassland.
12	129.22	B	16	5	8	*Lomandra multiflora and Lomandra effusa* of varying sizes. Some regeneration present. Diversity increasing from top to bottom of hill. Scattered *Rumex* and multiple native grass species, but few disturbance-resistant herbs.
13	9.72	C	8	0	4	Poor condition, few herbaceous species, some regenerating *Lomandra*. Roadside verge diverse.
14	258.19	C	11	4	3	Degraded, largely dead *Lomandra effusa* tussocks with little regeneration. Heavily grazed.
15	84.87	B	17	8	6	*Lomandra effusa and L. multiflora.* Sparse native herbs.

In addition to the 15 patches of INTG re-assessed, approximately 17.95 ha of *Lomandra multiflora ssp. dura* (Hard Mat-rush) / *Lomandra effusa* (Scented Mat-rush) Mixed Open Grassland was identified and mapped during the December 2020 survey across four different landholder properties, including nine new patches (16-24). One patch (23) was an extension of previously mapped INTG (Patch 3) and mapped as Class B, while the remaining eight patches were noted to be highly degraded with evidence of heavy grazing and low species diversity, and were mapped as Class C. Condition Class ratings for each of these sites are presented in Table 3.

Photographs of sites surveyed (where available) are presented in Figure 3 to Figure 18.

Table 3. Condition class rating of newly identified INTG sites.

Patch ID	Area (ha)	Condition Class	Diversity of native species (min)	Broad-leaved herbaceous species (min. excluding disturbance resistant spp.)	Perennial grass species (min)	Comments
16	2.27	C	9	1	4	Small patch of *Lomandra effusa*, very sparse cover. Heavily grazed shrubs in creek line. One of three small patches along creekline, separated by about 30-50m.
17	0.86	C	<10	<3	<4	Patches 17 and 18 were two small patches on a southern hill slope, separated by a crop. Species diversity and condition was low.
18	0.4	C	<10	<3	<4	See above.
19	1.15	C	<15	1	5	Lomandra grassland on slopes surrounded by *Callitris gracilis* in creek line and on ridges. Likely derived grassland.
20	0.43	C	<10	1	3	Very sparse Lomandra tussocks.
21	0.73	C	<10	<3	<4	Small patch, separated from patch 22, further down hill, in poor condition with sparse Lomandra.
22	8.25	C	11	2	5	Hilltops surrounded by cropping are Lomandra grasslands with *Maireana pyramidata* and native grassland on lower slopes. Patch 22 adjoins previously mapped INTG, Site 3, which was re-assessed as Class B. Amenable to rehabilitation.
23	0.51	B	19	4	4	Good condition patch on hill-side.
24	3.35	C	<15	2	3	Species diversity across the whole survey site (3.35 ha) qualified for Condition Class B, but species were sparse and within ‘best’ 50 x 50 m quadrat, did not meet criteria for listing as INTG TEC. Amenable to rehabilitation.

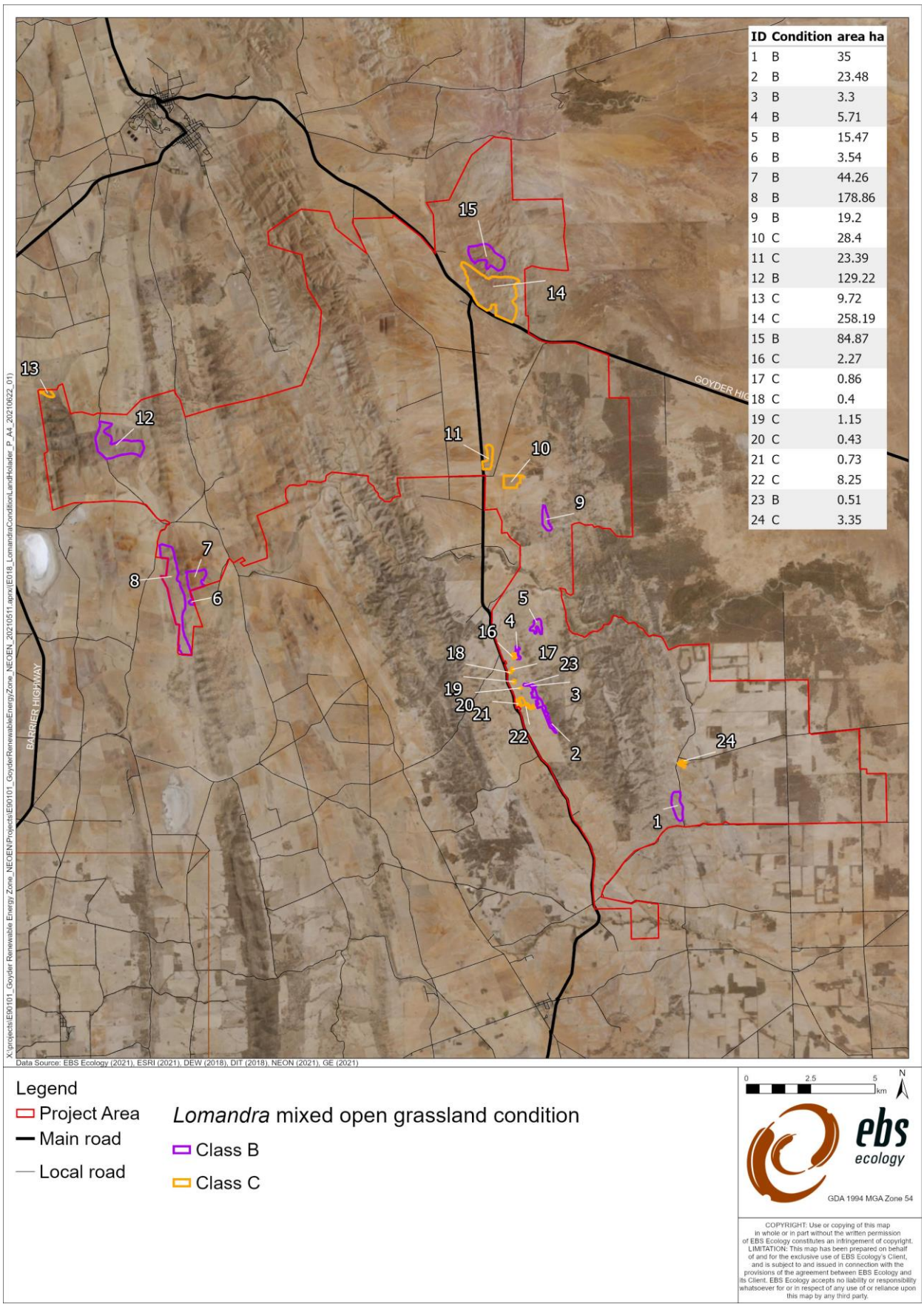

Figure 2. Condition rating of INTG surveyed in December 2020, showing areas re-assessed (site 1-15), and new areas mapped (site 16 to 24).

Photo log – photos of INTG patches (where available)
(note: no photos available for Sites 2, 5, 14, 17, 18, 20, 21.)

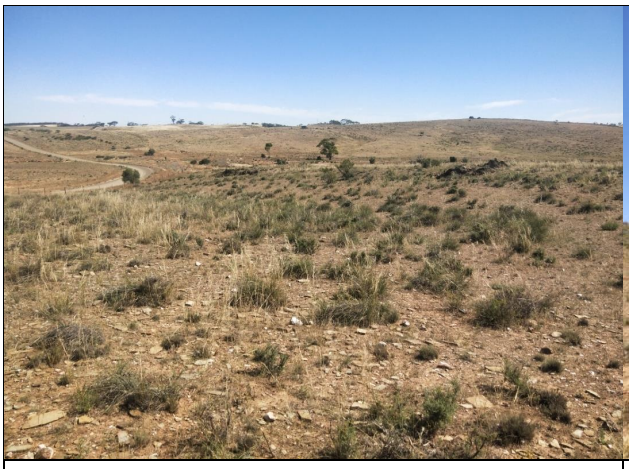

Figure 3. Patch 1. Class B INTG.

Figure 4. Patch 3. Class B INTG.

Figure 5. Patch 4. Class B INTG.

Figure 6. Patch 7. Class B INTG.

Figure 7. Patch 8. Class B INTG.

Figure 8. Patch 9. Class B INTG.

Figure 9. Patch 10. Class C INTG

Figure 10. Patch 11. Class C INTG.

Figure 11. Patch 12. Class B INTG.

Figure 12. Patch 13. Class C INTG.

Figure 13. Patch 15. Class B INTG.

Figure 14. Patch 16, Class C INTG.

Figure 15. Patch 19, Class C INTG.

Figure 16. Patch 22, Class C INTG.

Figure 17. Patch 23, Class B INTG.

Figure 18. Patch 24, Class C INTG.

3.2 Vegetation Associations

Twelve broad VAs were recorded and mapped over the areas not surveyed previously, and are presented in Table 4 alongside the VA mapping undertaken in 2019, to present a complete overview of the Project Area (Table 4, Figure 19, Figure 20). Three new VAs (21, 22, 23) mapped during the field survey are described further in Table 5, Table 6 and Table 7. For further detail on previously mapped VAs, refer to the *Goyder South Hybrid Renewable Energy Facility: Flora and Fauna Assessment* (EBS Ecology, 2020).

Table 4. Summary of VAs mapped across the Project Area in 2019 and 2020.

ID	Vegetation Association Description	Area (ha) 2019	Area (ha) 2020	Total (ha)
0	Amenity / Urban	37.01	12.09	**49.10**
1	*Maireana aphylla* (Cotton Bush) / *Atriplex stipitata* (Bitter Saltbush) Mixed Low Open Chenopod Shrubland	1875.08	471.04	**2346.12**
2	*Lomandra multiflora ssp. dura* (Hard Mat-rush) / *Lomandra effusa* (Scented Mat-rush) Mixed Open Grassland	862.62	19.74	**882.36**
3	*Eucalyptus porosa* (Mallee Box) Open Woodland	453.81	79.60	**533.41**
4	*Eucalyptus odorata* (Peppermint Box) Closed Woodland	38.78	-	**38.78**
5	*Eucalyptus oleosa ssp. oleosa* (Red Mallee) Mixed Open Mallee	4020.20	253.26	**4273.46**
6	*Eucalyptus leucoxylon ssp. pruinosa* (Inland South Australian Blue Gum) Open Woodland	321.00	-	**321.00**
7	*Eucalyptus camaldulensis ssp. camaldulensis* (River Redgum) Woodland	1.11	-	**1.11**
8	*Austrostipa spp.* (Spear Grass) Mixed Grassland	9325.52	354.65	**9680.17**
9	Exotic Grassland	878.93	15.26	**894.19**
10	*Callitris gracilis* (Southern Cypress Pine) Low Open Woodland	2.89	4.49	**7.38**
11	*Juncus sp.* (Rush) / *Cyperus gymnocaulos* (Spiny Flat-sedge) Mixed Low Closed Sedgeland	41.32	-	**41.32**
12	*Alectryon oleifolius ssp. canescens* (Bullock Bush) Low Open Woodland	78.76	-	**78.76**
13	*Atriplex nummularia* (Old-man Saltbush) Plantation	12.70	-	**12.70**
14	*Triodia irritans* (Spinifex) Grassland +/- Emergent Eucalyptus oleosa ssp. oleosa (Red Mallee)	48.88	-	**48.88**
15	*Dodonaea lobulata* (Lobed-leaf Hop-bush) Shrubland	24.53	-	**24.53**
16	*Beyeria lechenaultii* (Pale Turpentine Bush) Low Shrubland	26.17	0.43	**26.60**
17	*Phragmites australis* (Common Reed) Grassland	54.45		**54.45**
18	*Senna spp.* (Senna) / *Acacia rigens* (Nealie) Mixed Shrubland over Chenopod Shrubs	547.57	0.15	**547.72**
19	*Nitraria billardierei* (Nitre-bush) Low Shrubland	422.97		**422.97**
20	*Maireana pyramidata* (Black Bluebush) Low Shrubland	316.53	207.46	**523.99**
21	*Eucalyptus gracilis* (White Mallee) Open Woodland	-	18.72	**18.72**
22	*Eucalyptus porosa* Open Woodland over *Eremophila sp.* / *Acacia papyrocarpa* shrubs with *Maireana sp*. understorey	-	18.27	**18.27**
23	*Eucalyptus porosa* and *Eucalyptus gracilis* Mixed Mallee	-	31.91	**31.91**
	Cropping	5163.96	879.40	**6043.36**
Totals		**24554.79**	**3229.07**	**27783.86**

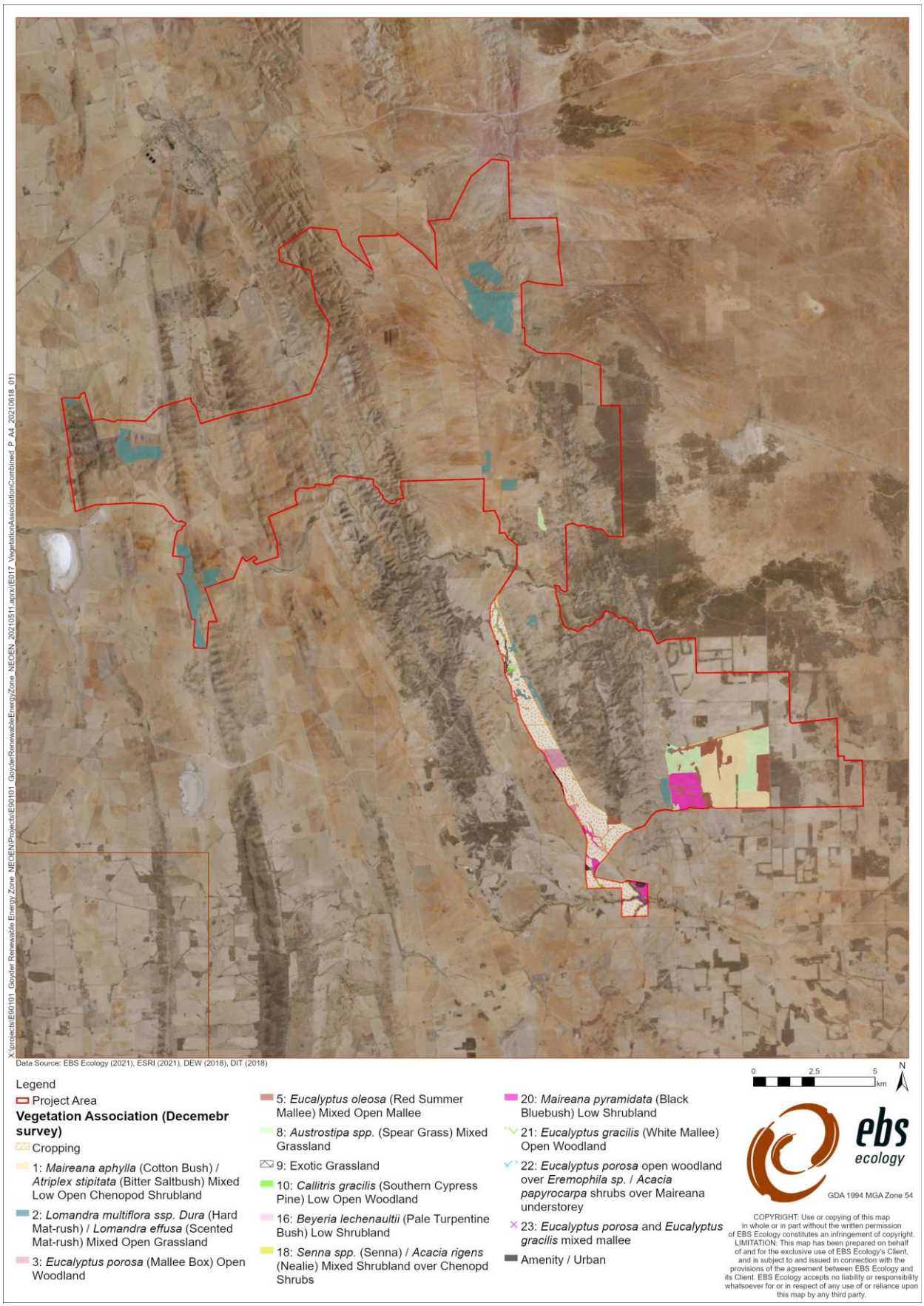

Figure 19. Vegetation associations observed during the December 2020 survey, including Lomandra Grassland sites which were re-assessed for INTG TEC listing qualification.

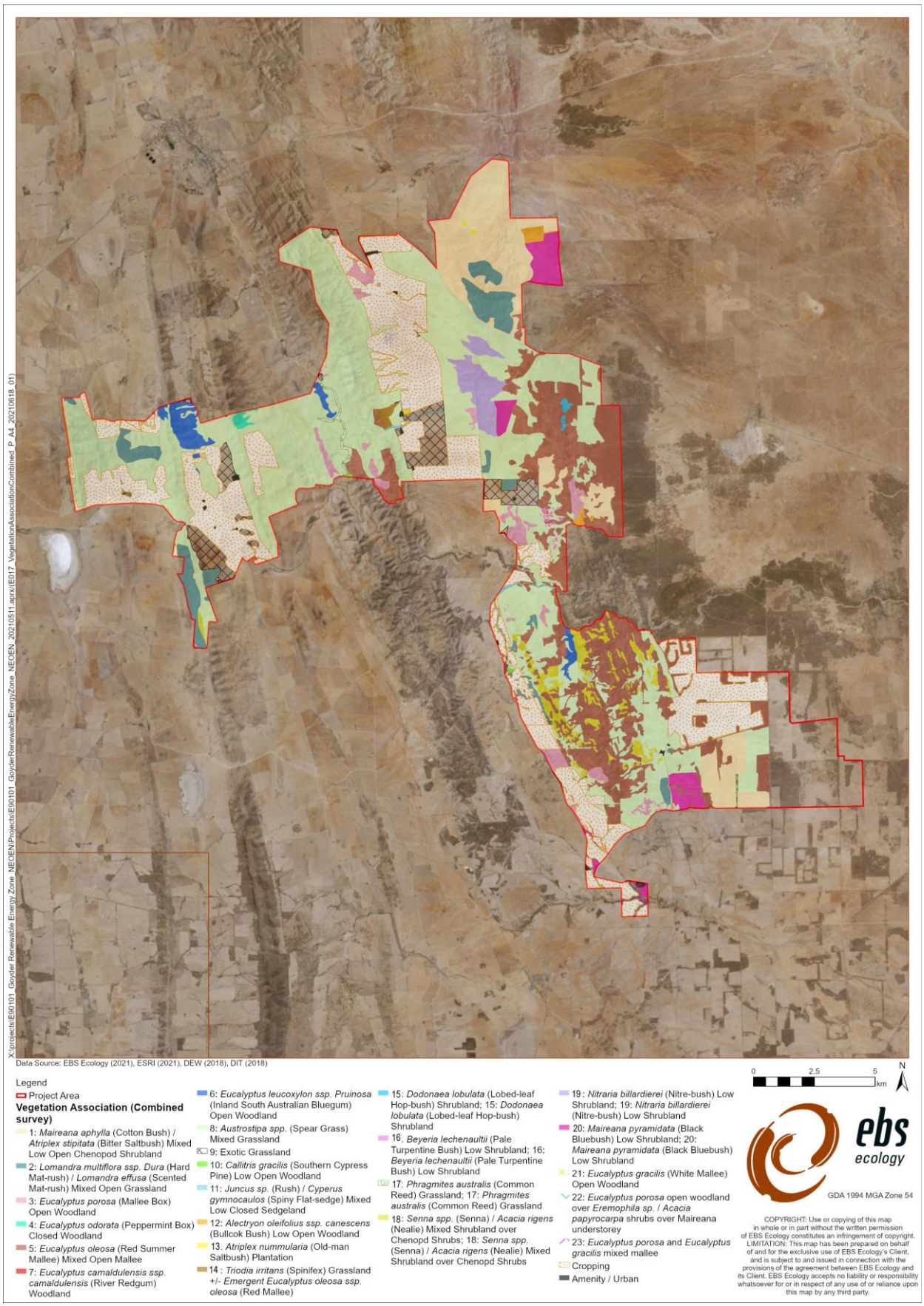

Figure 20. Vegetation mapping across the whole Project Area, 2019 and 2020 combined.

Table 5. Summary of VA 21: *Eucalyptus gracilis* (White Mallee) Open Woodland.

Overstorey species	*Eucalyptus gracilis* (White Mallee)
Midstorey species	*Maireana pyramidata and Atriplex Stipitata*
Understorey species	*Sclerolaena obliquicuspis* (Limestone Copperburr) and exotic understorey
Threatened species	None observed
Declared or significant weeds	NA
Vegetation description	Heavily grazed in patches
Fauna observations on site	*Merops ornatus* (Rainbow bee-eater), *Aphelocephala leucopsis* (Southern Whiteface), *Pardalotus striatus* (Striated Pardalote), *Anthus australis* (Australasian Pipit), *Cincloramphus sp* (Songlark sp.), *Manorina flavigula* (Yellow-throated Miner), *Barnardius zonarius barnardi* (Mallee Ringneck), *Corcorax melanorhamphos* (White-winged Chough), *Acanthagenys rufogularis* (Spiny-cheeked Honeyeater)

Figure 21. Representative photo of VA 21.

Table 6. Summary of VA 22: *Eucalyptus porosa* Open Woodland +/- *Eremophila sp. and Acacia sp*. over *Maireana* understorey.

Overstorey species	*Eucalyptus porosa*
Midstorey species	*Eremophila longifolia* and *Acacia papyrocarpa*
Understorey species	*Maireana pyramidata and Maireana sedifolia, Salsola australis, exotic grasses*
Threatened species	None observed
Declared or significant weeds	*Nicotiana glauca* (Tree Tobacco) *Schinus molle* (Pepper Tree)
Vegetation description	VA 21 occurred in a disturbed creek line with very steep eroded banks in places. Very mixed shrub layer, patches of *Nicotiana glauca* (Tree tobacco) and Pepper Tree (*Schinus molle*) scattered throughout.
Fauna observations on site	*Tiliqua rugosa* (Sleepy Lizard), *Gavicalis virescens* (Singing Honeyeater), *Rhipidura leucophrys* (Willie Wagtail), *Falco cenchroides* (Australian Kestrel). Inactive Southern Hairy-nosed Wombat (*Lasiorhinus latifrons*) burrows observed on site.

Figure 22. Representative photo of VA 22 along creek line with *E. porosa* and mixed shrubs.

Table 7. Summary of VA 23: *Eucalyptus porosa* and *Eucalyptus gracilis* mixed Mallee in creek line.

Overstorey species	*Eucalyptus porosa* (Mallee Box) and *Eucalyptus gracilis (White Mallee)*
Midstorey species	None dominant
Understorey species	Heavily grazed, bare.
Threatened species	None observed
Declared or significant weeds	NA
Vegetation description	Wide riparian strip of Mallee Woodland separated by dry creek. *E. porosa* dominant on north side of creek and *E. gracilis* dominant on south side. Very heavily grazed, almost no understorey or ground layer observed.
Fauna observations on site	*Anthus australis* (Australasian Pipit).

Figure 23. Representative photo of VA 23 on southern side of creek, dominated by *E. gracilis* with bare understorey and *E. porosa* on northern side.

3.3 Flora

A total of 72 native species of plants were identified across the December 2020 survey area, including in re-assessed INTG patches (Table 8).

Four threatened flora species were observed during the field survey (Figure 27):

- *Acacia spilleriana* (Spillers Wattle) (EPBC Act: Endangered; NPW Act: Endangered) (Figure 25);
- *Cryptandra campanulata ssp. campanulata* (Long-flowered Cryptandra) (NPW Act: Rare);
- *Eryngium ovinum* (Blue Devil) (NPW Act: Vulnerable) (Figure 24); and
- *Rumex dumosus* (Wiry Dock) (NPW Act: Rare).

Figure 24. *Eryngium ovinum* (Blue Devil) observed in Lomandra grassland in the western portion of the Project Area.

Figure 25. Acacia spilleriana (Spillers Wattle). Left inset: Seed. Right inset: Leaves and flowers.

Table 8. Flora species observed in December 2020 survey.

Species name	Common name	Status
Acacia calamifolia	Wallowa	
Acacia nyssophylla	Pin Bush	
Acacia oswaldii	Umbrella Wattle	
Acacia papyrocarpa	Myall	
Acacia spilleriana	Spillers Wattle	Endangered (EPBC Act & NPW Act)
Alectryon oleifolius	Bullock Bush	
Aloe barbadensis	Aloe	Weed
Aristida behriana	Brush-wire Grass	
Arthropodium strictum	Common Vanilla Lily	
Asphodelus fistulosus	Onion weed	Weed
Atriplex stipitata	Bitter Saltbush	
Austrostipa elegantissima	Feather Spear-grass	
Austrostipa eremophila	Desert Spear-grass	
Austrostipa nitida	Balcarra Spear-grass	
Austrostipa setacea	Corkscrew grass	
Austrostipa sp.	Spear-grass	
Avena barbata	Oat	Weed
Boerhavia dominii	Tarvine	
Bursaria spinosa ssp. Spinosa	Sweet Bursaria	
Callitris gracilis	White Pine	
Carthamus lanatus	Saffron Thistle	Weed
Chrysocephalum apiculatum	Common Everlasting	
Convolvulus remotus	Grassy Bindweed	
Cryptandra campanulata ssp. campanulata	Long-flowered Cryptandra	Rare (NPW Act)
Cymbopogon sp.	Lemongrass	
Cyperus sp.		
Dianella revoluta var. revoluta	Black-anther Flax-lily	
Dissocarpus biflorus	Twin flower saltbush / Twin-horned copperburr	
Dissocarpus paradoxus	Cannonball Burr	
Echium plantagineum	Salvation Jane	Declared Weed
Einadia nutans ssp. nutans	Climbing Saltbush	
Elymus scaber	Common wheat-grass	Weed
Enchylaena tomentosa	Ruby Saltbush	
Enneapogon nigricans	Black-head Grass	
Enteropogon acicularis	Curly Windmill Grass	
Eremophila longifolia	Weeping Emubush	
Eremophila scoparia	Silver Emubush	
Eryngium ovinum	Blue Devil	Vulnerable (NPW Act)
Eucalyptus gracilis	White Mallee	
Eucalyptus oleosa	Red Mallee	
Eucalyptus porosa	Mallee Box (Black Mallee)	
Eucalyptus socialis	Red Mallee	
Euphorbia drummondii	Caustic Weed	
Euphorbia sp.		Weed
Exocarpos aphyllus	Leafless ballart	
Helichrysum leucopsideum	Satin Everlasting	

Species name	Common name	Status
Juncus sp.		
Lepidium africanum	Rubble Peppercress	Declared Weed
Lomandra effusa	Scented Iron-grass	
Lomandra multiflora ssp. dura	Hard Mat-rush	
Lycium ferocissimum	African Boxthorn	Declared Weed
Maireana enchylaenoides	Wingless fissure-plant	
Maireana pyramidata	Black Bluebush	
Maireana sedifolia	Pearl Bluebush	
Marrubium vulgare	Horehound	Weed
Medicago polymorpha	Burr Medic	Weed
Moraea setifolia	Thread iris	Weed
Myoporum platycarpum	Sugarwood	
Nicotiana glauca	Tobacco tree	Weed
Nitraria billardierei	Nitre bush	
Olearia muelleri	Muellers Daisy-bush	
Onopordum acaulon	Horse thistle	Weed
Oxalis perennans	Tall-fruit Oxalis	
Ptilotus spathulatus	Pussy-tails	
Rhagodia parabolica	Mealy Saltbush	
Rhagodia spinescens	Berry Saltbush	
Rosa canina	Dog Rose	Weed
Rumex dumosus	Wiry Dock	Rare (NPW Act)
Rumex sp.	Dock	Weed
Rytidosperma sp.	Wallaby grass	
Salsola australis	Roly poly	
Salvia verbenaca	Wild Sage	Weed
Scaevola spinescens	Spiny Fanflower	
Scleranthus pungens	Prickly Knawel	
Sclerolaena decurrens	Green Copperburr	
Sclerolaena diacantha	Grey Copperburr	
Sclerolaena obliquicuspis	Limestone Bindii	
Sclerolaena patenticuspis	Spear-fruit Copperburr	
Senna artemisioides	Variable Senna	
Schinus molle	Pepper tree	Weed
Sida corrugata	Corrugated Sida	
Solanum elaeagnifolium	Silver-leaf Nightshade	Weed
Themeda triandra	Kangaroo Grass	
Trifolium arvense	Hares foot clover	Weed
Triodia irritans	Spinifex	
Velleia arguta	Sharp-toothed Velleia	
Vittadinia blackii	Narrow-leaf New Holland Daisy	
Vittadinia cuneata	Fuzzy New Holland Daisy	
Vittadinia gracilis	Woolly New Holland Daisy	
Wahlenbergia luteola	Yellow-wash Bluebell	
Zygophyllum apiculatum	Common Twinleaf	
Zygophyllum aurantiacum ssp. aurantiacum	Shrubby Twinleaf	

3.4 Fauna

Though not a primary aim of the survey, opportunistic observations of fauna were made during the field survey when time permitted, during which 26 native fauna species were recorded, including one reptile, two mammals and 23 bird species (Table 9).

Four non-native species were also recorded:

- European Rabbit (*Oryctolagus cuniculus*);
- Red Fox (*Vulpes vulpes*);
- House Sparrow (*Passer domesticus*); and
- Eurasian Skylark (*Alauda arvensis*).

Table 9. Fauna species observed in December 2020 survey.

Species name	Common name
Acanthagenys rufogularis	Spiny-cheeked Honeyeater
Acanthiza chrysorrhoa	Yellow-rumped Thornbill
Anas gracilis	Grey Teal
Anthus australis	Australian Pipit
Aphelocephala leucopsis	Southern Whiteface
Barnardius zonarius barnardi	Mallee Ringneck
Chenonetta jubata	Australian Wood Duck
Cincloramphus cruralis	Brown Songlark
Corcorax melanorhamphos	White-winged Chough
Eolophus roseicapilla	Galah
Falco cenchroides	Australian Kestrel
Gavicalis virescens	Singing Honeyeater
Gymnorhina tibicen	Australian Magpie
Macropus robustus	Euro
Macropus rufus	Red Kangaroo
Manorina flavigula	Yellow-throated Miner
Merops ornatus	Rainbow bee-eater
Ocyphaps lophotes	Crested Pigeon
Pardalotus striatus	Striated Pardalote
Petrochelidon nigricans	Tree Martin
Pomatostomus superciliosus	White-browed Babbler
Psephotus haematonotus	Red-rumped parrot
Rhipidura leucophrys	Willie Wagtail
Smicrornis brevirostris	Weebill
Tiliqua rugosa	Sleepy lizard
Todiramphus pyrrhopygia	Red-backed kingfisher

Southern Hairy-nosed Wombat (*Lasiorhinus latifrons*) (SA: Near Threatened) burrows were observed at four locations during the December 2020 survey (in areas previously not accessed or surveyed as part of the initial flora and fauna assessment in 2019), including one near an eroded drainage line which appeared to be active, showing signs of recent disturbance and scats (Figure 26).

Figure 26. Active wombat burrow observed during December 2020 survey.

Figure 27. Threatened flora and fauna observations on site during December 2020 survey.

4 DISCUSSION AND RECOMMENDATIONS

The re-classification of 542.91 ha of INTG from non-TEC listed to Class B TEC demonstrates the importance of considering seasonal conditions when undertaking vegetation condition assessment surveys and validates the recommendation to undertake a re-assessment of these listed communities to ensure that potential impacts can be avoided and mitigated. Additionally, the re-assessment may allow informed recommendations to be made for potential offset sites (Class C) to be established.

Recommendations:

- Undertake detailed vegetation surveys in areas to be impacted using NVC's Bushland Assessment Method, following provision of the final design footprint.
    - Calculate the SEB required to offset the clearance of native vegetation; and
    - Submit an application to the NVC to seek approval to clear native vegetation.
- Consider patches mapped as condition Class C INTG for potential EPBC offset, in particular:
    - Patch 10 (28.4ha) – noted to have good tussock density and low weed diversity, amenable to rehabilitation through increasing native species diversity;
    - Patch 13 (9.72 ha) – observed to be in poor condition with low species diversity, but with a nearby patch of highly diverse roadside vegetation which could form the basis of rehabilitation into the patch;
    - Patch 14 (258.19 ha) – a large patch observed to be heavily grazed with *Lomandra* in poor health. A change to the grazing regime could make a considerable improvement to the condition; and
    - Patch 24 (3.35 ha) – Alongside a drainage line and within the vicinity of wombat burrows. This site was close to having enough species diversity and would benefit from reduced grazing pressure.

5 REFERENCES

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