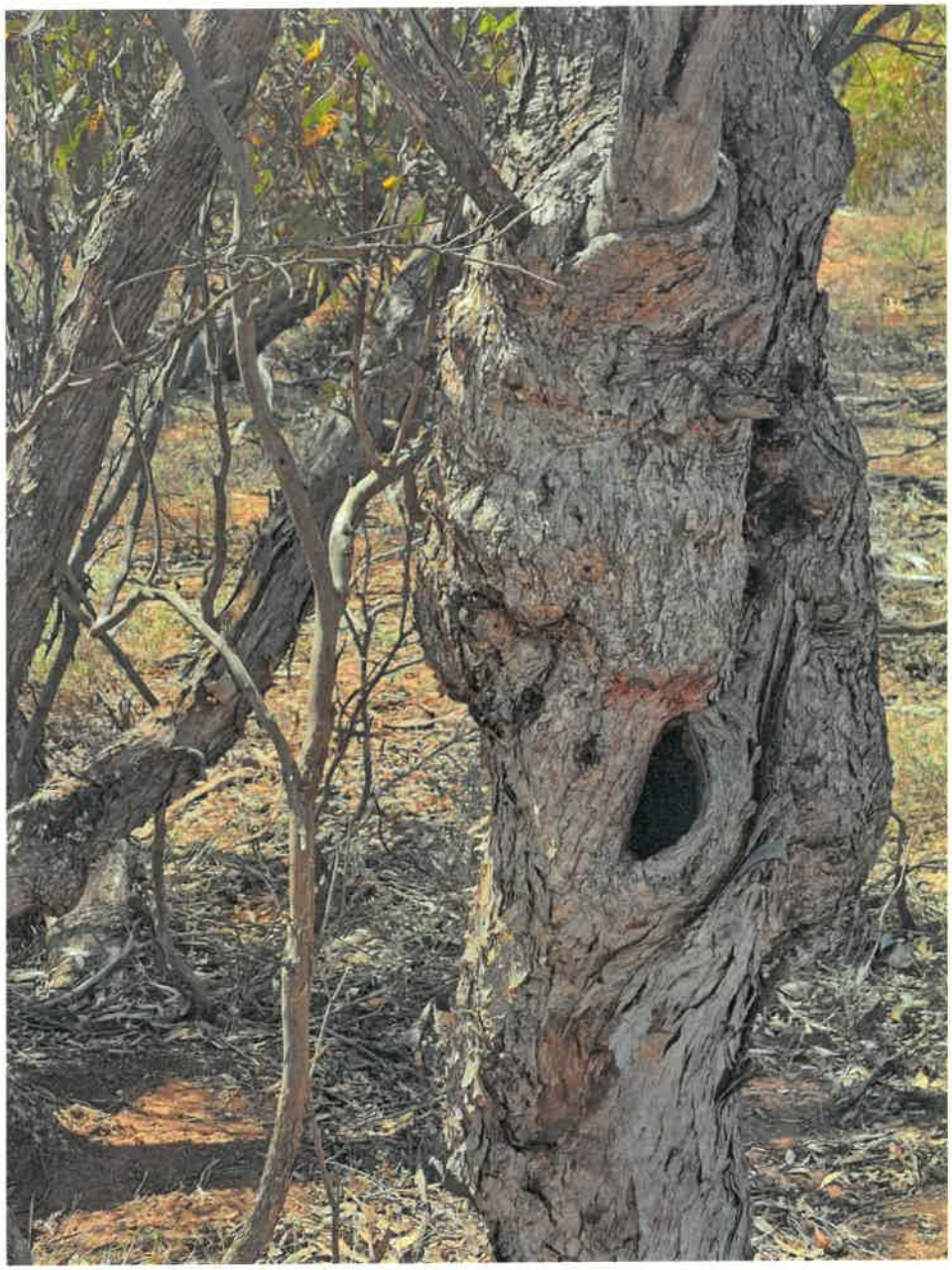
Irongrass Environmental
Rehabilitation Services

Beaufort Reserves Biodiversity Management Plan



June 2025

by Andrew Allanson & Janet Kuys

Irongrass Environmental Rehabilitation Services

Acknowledgments

Several people have contributed their time and technical knowledge in the preparation of this Biodiversity Management Plan.

Adrian Shackley	Botanist in Mid-North of SA; thanks so much for your efforts in documenting existing native vegetation in the area of this plan.
Glen Growden	Public Services Officer at the Wakefield Regional Council; for your time spent in the field and on the phone.

Disclaimer

Irongrass Environmental Rehabilitation Services and its proprietors do not warrant or make any representation regarding the use, or results of the use, of the information contained herein as regards to its correctness, accuracy, reliability, currency or otherwise. Irongrass Environmental Rehabilitation Services and its proprietors expressly disclaim all liability or responsibility to any person using the information or advice.

Irongrass Environmental Rehabilitation Services

This work is copyright. Unless permitted under the Copyright Act 1968 (Cwlth), no part may be reproduced by any process without prior written permission from Irongrass Environmental Rehabilitation Services. Requests and inquiries concerning reproduction and rights should be addressed to the Irongrass Environmental Rehabilitation Services, C/- Post Office, Palmer SA 5237.

Contents

Summary 5
Introduction 5
Council Management of the Reserves 5
Management Considerations 6
Managing the Native Vegetation 7
Weed Control Techniques 10
What is Bush Regeneration? 10
Guiding Principles of Bush Regeneration 10
Minimum Disturbance Weed Techniques 12
Hand Pulling Weeds 12
Targeted low-pressure weed spraying 12
Cut and Swab Method 13
Revegetation of tracks and adjacent council land 15
The Sections of the Reserves 15
Parcel H230700 S498 15
Parcel H230700 S663 North-eastern section 15
Parcel H230700 S664 Southern Section 16
Parcel H230700 S665 South-Western Section 16
Parcel D127159 A30 Western Section 16
Section of Roadside, east of Beaufort 17

Photos:

Cover photo: Old Hollows – valuable habitat
Photo 1: Illegal firewood collecting. 8
Photo 2: One of several well-established rabbit warrens within the Reserves. 8
Photo 3: Rubbish observed on nearby roadside vegetation. 9
Photo 4: Demonstration of cutting and swabbing – step 1 14
Photo 5: Demonstration of cutting and swabbing – step 2 14
Photo 6: Demonstration of cutting and swabbing – step 3 14

Tables:

Table 1: Species list for Parcel H230700 S663 North-eastern section 18
Table 2: Species list for Parcel H230700 S664 Southern Section 19
Table 3: Species list for Parcel H230700 S665 South-Western Section 19
Table 4: Species list for Parcel D127159 A30 Western Section 20
Table 5: Species list for Section of Roadside, east of Beaufort 20

Maps:

Map 1: Beaufort Reserves Survey Area 21

Map 2: Parcel H230700 S498 22

Map 3: Parcel H230700 S663 North-eastern section 23

Map 4: Parcel H230700 S664 Southern Section 24

Map 5: Parcel H230700 S665 South-Western Section 25

Map 6: Parcel D127159 A30 Western Section 26

Map 7: Section 1 of Roadside east of Beaufort 27

Map 8: Section 2 of Roadside east of Beaufort 28

References 29

Further Reading 29

Addendum 30

Further notes from Adrian Shackley regarding fencing of the section of road reserve, east of Beaufort 30

Table 6: Beaufort native plants summer 23-24 identified by Adrian Shackley 31

Table 7: Birds species identified within 1km radius 32

Table 8: Species list for Section of Beaufort Road reserve, east to Kenderleigh Rd 33

Table 9: Beaufort stone reserves sections 498, 499 managed by Wakefield Regional Council 34

Table 10: Native plant species in 1997 Biological Survey site on/near Section 658 Stone reserve 34

Table 11: Introduced plant species in 1997 Biological Survey site on/near Section 658 Stone reserve 35

Summary

Observations during our survey and from prior knowledge of managing bushland, we suggest the management actions below:

1. *Undertake a thorough assessment of land ownership and leases on the reserves as well as property boundaries*
2. *Fence off the Reserves to reduce the number and use of tracks that exist on several reserves (by preventing access to tracks)*
3. *Undertake review of fencing and management of road reserves where fencing not on title boundary*
4. *Investigate the possibility of involvement in the Bush For Life program*
5. *Undertake revegetation of tracks (following their closure)*
6. *If appropriate training of workers has occurred and safety equipment provided, to control*
    a. *African boxthorn across all sections of the reserve (and outside of the reserve if possible to reduce re-infestation) – using the cut and swab method*
    b. *Careful weed spraying of bridal creeper in July – September over as much of the infestation as possible*
    c. *Careful weed spraying around the edges (only) of soursob and hand-pulling of Ward's weed, **or any small isolated** infestations in June/July to late September thereby increasing the possibility of native species re-colonising the "edges".*
    d. *Careful weed spraying of weeds, such as horehound, onion weed, iceplant etc patches as these infestations aren't large.*

Introduction

Irongrass Environmental Rehabilitation Services were requested to write a Biodiversity Management Plan for the Beaufort Reserves (Refer map 1) by Glen Growden, Public Services Officer of Wakefield Regional Council, in September 2024. Consultants from Irongrass Environmental Rehabilitation Services met with Glen and with Adrian Shackley (interested Botanist), at Beaufort on the 30th of September 2024. Following a Site Induction, Glen and Adrian provided us with an overview of different management issues, and to make us aware of potential issues with various stakeholders (local community, local government etc).

The plan outlines management actions that can be taken to maintain the existing biodiversity within the reserve, as well as along the roadside eastwards from the Reserves. This informs Wakefield Regional Council and local workers on which actions should be prioritised for control. Importantly, suggestions for better management of visitors to the reserve are made. These suggestions may require grant funding for them to be achieved.

Council Management of the Reserve

Wakefield Regional Council is keen to ensure that the biodiversity assets within the council area remain protected into the future. Some activities (e.g. firewood collecting, use as a car hooning area etc), are not suitable for the Beaufort Reserves, as such activities are illegal and also expose Council to unnecessary liability. Furthermore, such activities have a detrimental effect on the native vegetation within the reserves.

The Wakefield Regional Council covers a large area but has a low population of 7,000 people. The ratepayer base is low, considering the large area that the Council administers. The Beaufort Reserves are small reserves within this large area. The Wakefield Regional Council values the reserves, but due to the large size of the Council area, it is difficult to

fund any significant ongoing maintenance of the reserves. Despite this, Council may be able to apply for Grant Funding to achieve better protection of the reserves.

Developing the partnership between the local community and Wakefield Regional Council is in its early stages. It will be vital for the community to be involved in the on-going management. There is a program that would enable this to be achieved, via involvement in Trees For Life's "Bush For Life" program. This program provides volunteers access to training necessary for bushland weed control, as well as continuing on-ground training.

Management Considerations

Since European settlement, the area has been heavily cleared of native vegetation. Prior to European settlement, the First Nations people across much of Australia actively managed bushland *using fire* to ensure that in the following years, large game flourished; as well to retain the diversity of herbaceous species used as sources of food e.g. lily species etc (Gammage B, 2011). Conditions have changed considerably since European settlement. Fire across all sections of reserve is unlikely to be of benefit to the vegetation.

Since those times, the reserves have gained significant conservation importance, as small patches of bushland containing a sample of the vegetation once found in the area. During the vegetation survey in preparation for this plan, several examples of damaging activities were noticed, which impact significantly on such small patches of vegetation.

There is uncertainty about licensing or leasing arrangements affecting Beaufort Reserves. Several sections appear to have been "absorbed" into existing farming activities of adjacent landholdings. The licensing or leasing arrangements need to be re-viewed, to ensure that Council has access to all of the Reserves, to enable management actions to be completed.

A significant level of valuable information was provided by Adrian Shackley, (a botanist in the mid-north), who had already completed several botanical surveys of the reserve, thereby providing a higher diversity of species recorded, than would have been done during a single visit to a site.

An assessment of the site was undertaken on the 2nd of October in the preparation for this plan. This involved further recording of native flora species, weed species present and opportunistic sightings of wildlife (including feral animals). Importantly, identifying management issues and potential solutions was the main role of the consultants.

A native plant and weed species list was compiled for each separate section. Photos were taken to provide a visual representation of the vegetation. A hand-held GPS was used to aid in mapping the vegetation and section boundaries.

2024 was an extraordinarily dry year. This is reflected in the condition of the Reserve vegetation, with many of the weed species recorded having been dried out completely. Nevertheless, we were able to identify many weed species amongst the native vegetation. Unfortunately, many native herbaceous species were similarly affected.

There is a further section of native vegetation to the west of the Augusta Highway which we were unable to access due to road building activities on the day that we did our fieldwork. This area was subject to a Biological Survey of vegetation in 1997. Results are shown in Table 6 in the Addendum.

Managing the Native Vegetation

Weeds and grazing animals can cause vegetation to become simplified (loss of species or severely reduced in number). Several weed species when left uncontrolled, are likely to expand into native vegetation and are known to reduce the diversity of native species. Weeds, along with grazing animals (e.g. rabbits) combine to alter the vegetation (over decades) to the extent that even tree species can be prevented from self-replacement due to weeds or grazing of seedlings. Palatable native herbaceous species and native grasses can also be targeted (by grazing animals), which over time are eliminated from an area and are often replaced by weeds.

As the survey progressed, several management issues became apparent. These are;

- **many wide tracks across the reserves,**
- **there is evidence of cutting trees for firewood,**
- **rubbish dumping**
- **a prolific infestation of several weed species**
- **evidence of grazing by rabbits as well as warrens and scats.**

The rabbit warrens are well established and it is likely that many palatable native plant species have been greatly reduced on the reserves (if not eliminated).

The Reserves consist largely of the same type or *vegetation association*, which is categorized as ***Eucalyptus socialis*** **(summer red mallee) and** ***Eucalyptus gracilis*** **(white mallee) woodland, over a shrubby understorey of** ***Acacia*** **(wattle) and Chenopodiaceae (saltbush) species.**

Each reserve or section, is divided from the next section, by roadway or by cropping land on adjacent properties. Each section is then further divided up within, by substantial tracks which appear to have been made by vehicles - either cars (e.g. 4-wheel drives) or motorbikes. This has resulted in further fragmentation of the Reserves.

Each road and track provide opportunities for weed invasion. An occasional vehicle (amongst any visiting the reserves) may easily have weed seeds attached. The disturbance created by the vehicles, provide an ideal location for weed seeds to germinate. Further, each road and track exposes the remaining vegetation to increased heat during summer, decreasing available moisture to trees etc. due to increased evapotranspiration.

The past incursions of vehicles, as well as the illegal cutting of trees, weed infestation and rubbish dumping causes the reserves to have:

- a decrease in native species diversity (via vehicles spreading seed)
- an increase in points for weeds to establish (tracks etc.)
- an increase in weed species cover and diversity (outcompeting native species)
- a significant change in the soil seedbank, (with a decreasing level of native seed stored in the soil).
- easier access for feral predators (foxes, feral cats) and grazers (escaped sheep, goats), to gain access to native species (flora and fauna).



Photo 1: Illegal firewood collecting. Also, not much dead wood lying on the ground.



Photo 2: One of several well-established rabbit warrens within the Reserves.

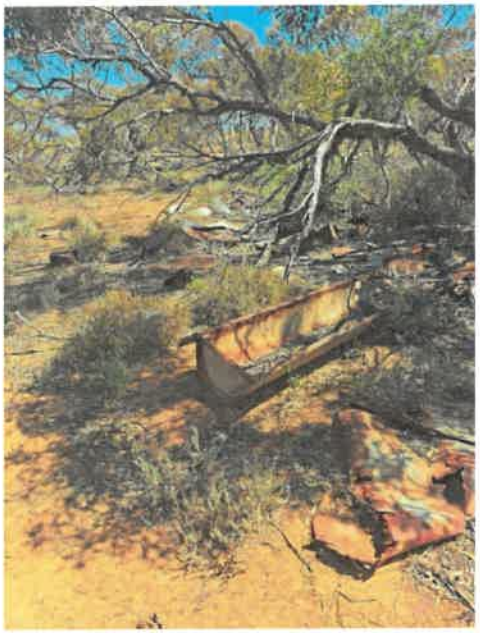


Photo 3: Rubbish observed on nearby roadside vegetation.
Most rubbish was in the form of general litter (e.g. wrappers etc.), rather than hard rubbish as shown above.

It is not surprising that the condition of the native vegetation within each of the reserves is quite poor. Should the current situation of the misuse of the reserve continue, it should be expected to see the vegetation decline over following decades. These declines occur over a long period of time (to people at least) leading to a lack of concern from most people over the condition of native vegetation in the Reserves.

Any change in the management of the Reserves, needs to involve the local community in the hope that they gain a better sense of responsibility for the Reserves (this could be made possible by involving Trees For Life's "Bush For Life" program). By involving the local community in the future of the Reserves, they will most likely begin to appreciate the vegetation and the *benefits for them* - if it is to survive and thrive into the future. Those benefits include:

- ameliorating weather extremes
- pollination services provided by insects inhabiting the Reserves
- suppression of salinity in nearby land
- increased bird life
- stable land value for adjacent landholders
- an area to observe and enjoy wildlife

The above benefits are regarded as "ecosystem services", providing benefits for people as well as for wildlife. Should the Reserves continue to decline, these benefits will be lessened. Conversely if the management of the Reserves improves, the above benefits may increase in effectiveness. Fencing to prevent vehicle access and a steady program for the control of weeds will provide improvements over time.

Despite the condition of the Reserves and nearby roadsides, there are several positive aspects too. The fauna observed during the fieldwork, as well as observations by Adrian Shackley, have been reasonably good. Bearded Dragons, Sand Goannas and Eastern Brown Snake have been observed in the past and are likely to still survive there.
There are likely to be many other smaller reptile species.

The diversity of native plant species is still reasonably good, although of the many species recorded, several are few in number.

Weed Control Techniques

It is important that the correct weed control techniques are used in bushland areas. Techniques will change according to the weeds being controlled. Beaufort Reserve is no exception to this, with a considerable number of highly invasive weeds being recorded. These *include*:

- Bridal creeper
- African boxthorn
- Cactus
- Soursob
- Ward's weed
- Onion weed
- Horehound
- Ice plant

At all times, bush regeneration techniques are best to use. These techniques are less disturbing to native species, and are able to be carried out by trained volunteers. This work will involve the use of herbicides for which safety equipment (gloves, safety glasses etc.) will be needed.

We have prioritised the different weed species according to several factors for each weed. These include:

- Knowledge of the weed species and its effect on native vegetation, e.g. does the weed species out-compete native species and if so, to what extent?
- Knowing how the various weed species are spread (for example, African boxthorn seed is eaten by birds and foxes, and deposited far from where it was ingested)
- Difficulty to undertake actions to control/reduce the weed infestations without compromising existing native vegetation (risk of off-target damage).

What is Bush Regeneration?

Bush regeneration is a well-established methodology for dealing with weed infestations in bushland in South Australia (by Trees For Life's "Bush For Life" program as well as by The National Trust of SA, and various Bush Regeneration contractors). Given that the Beaufort Reserves are a small remnant of native vegetation, bush regeneration is essential to use for weed control.

Guiding Principles of Bush Regeneration

- Work from the good bush outwards,
- Disturb the soil as little as possible and
- Do not over clear weeds.

The above are *guiding* principles, which can be interpreted to suit the particular bushland area in question. The following discusses each principle with the Beaufort Reserves in mind.

Principle 1 - Work from the good bush outwards – This principle can be applied on various levels;

- at a weed species level, e.g soursob control would require strict adherence to this principle, but bridal creeper needs to be removed from a wider area than for soursob
- at the bushland condition level, e.g. where weed control is undertaken where the most valuable patch of bushland is (e.g. rare species, or area containing the most diverse range of native species)
- depending on the skill levels of workers and their level of training;
    - e.g. inexperienced bush regenerators might be able to deal with African boxthorn which involves cutting the plant down to ground level and applying herbicide to the remaining stump;
    - the bush regenerator has been trained at the appropriate levels to control soursob (e.g. broadleaf specific herbicides)
    - workers don't have access to equipment needed to undertake a task.

Principle 2 - Disturb the Soil as Little as Possible – many weed species are greatly advantaged by soil disturbance, therefore:

- pulling large weeds out is not advisable (cut and swab method used instead)
- if disturbance is excessive, removal of one weed species will only enable other weeds to re-colonise the location of disturbance
- choosing the appropriate weather conditions to undertake work (e.g not working when the soil is soaked following heavy rainfall, or when the soil is very dry over summer and during drought conditions)

Principle 3 - Do not over clear weeds – following this principle enables workers to manage large areas of bushland even when time is limited. However, the removal of as much African boxthorn, cactus and bridal creeper as is possible is advised, due to;

- these weed species being spread by wildlife (introduced and native)
- the damage that these weed species cause in native vegetation
- all three weed species require consistent efforts for any reduction to occur.

This principle is essential to follow for many of the other weeds found at the reserve. To follow this principle, workers need to;

- begin work in the highest quality bushland
- remove any weeds where infestations are small or newly arrived
- after removing isolated weeds first, work toward consolidating weed fronts – it is far more efficient to remove one small isolated weed than to try to remove large highly infested weedy areas
- control weeds at a pace where native vegetation can re-colonise an area

One can see that it is very tempting to start work where the infestation is largest. However, when workers make this mistake, it has been found that elsewhere the same weed species has increased, whilst the area that they initially worked on is less likely to be colonised by native species. Better to have worked only around the edge of the large infestation *after* the isolated weeds are removed. A larger area of bushland is then able to be looked after.

From these considerations, we suggest making the management decisions as per below:

1. *to not use any herbicides in proximity of where endangered plant species are located*
2. *if appropriate training of workers has occurred and safety equipment provided, to control*
    a. *African boxthorn across the reserve (and outside of the reserve if possible) to reduce re-infestation – using the cut and swab method*

b. *Careful weedspraying of bridal creeper in July – September over as much of the infestation as possible*
c. *Careful weedspraying around the edges (only) of soursob and hand-pulling of Ward's weed,* ***or any small isolated*** *infestations in June/July to late September thereby increasing the possibility of native species re-colonising the "edges".*
d. *Careful weedspraying of horehound, onion weed patches as these infestations aren't large.*

Minimum Disturbance Weed Techniques

The following are the techniques used in bush management weed control. The techniques will vary according to the conditions at the site when weeding. They include (but are not limited to):

- Hand pulling
- Wiping foliage
- Targeted low-pressure weed spraying
- Cut and swab
- Drill and fill
- Slashing

Of the above, three techniques will need to be used; **hand pulling, weedspraying, and cut and swab.**

Hand Pulling Weeds

It may seem strange to read that this is still the most useful of all techniques, but it is especially important wherever there are "threatened" plant species (species identified as being of concern), or wherever the vegetation contains herbaceous native species (lilies etc). Herbaceous species are susceptible to herbicide spray drifting on to them. The good thing about hand-weeding is that effective work can be achieved in a short space of time, *as long as the work is followed up with further work to add value to the initial work.*

To hand pull small weeds, place one hand on the ground with the weed stem between two fingers. Then press the ground whilst carefully pulling the weed with the other hand. For larger weeds, place your feet on both sides of the stem and whilst bending your knees, steadily pull the weed out from between your feet. If the soil is disturbed, gently tamp it back down, or put some leaves over it.

Whenever there is soil disturbance, a range of weeds are able to establish instead of native species. Hand pulling of weeds should never be done if the soil is very dry – it's harder work and disturbs the structure of affected soil. If the weed is too hard to pull by hand, turn to the next method.

Targeted low-pressure weed spraying

To dig out bridal creeper by hand would cause significant damage to the remaining native vegetation. This is when low-pressure weed spraying is clearly more efficient. However, this is also when great damage can occur.

Before any broad leaf herbicide is used, workers will need to be provided with the appropriate training in the safe use of chemicals. There is a range of herbicides available, and importantly, anyone using herbicides must read the label before using it. This will ensure that

the user knows the appropriate rate to use in the spray mix, and the safety equipment required. Caution is best used at all times.

Being aware of the damage that occurs to native species from herbicides is vital. It is easy for off-target damage to occur. Before weed spraying begins, it is useful to carefully examine the area infested by the weed species to be targeted, and take note of any native species present. These will subsequently need to be avoided.

Asparagus asparagoides (Bridal Creeper) is well established in the reserve. This weed species outcompetes nearby native plants due to its dense foliage and tuberous root system. In research undertaken prior to 2002, bridal creeper was recorded as having 87% of its biomass in the underground root system when it is flowering and at full leaf stage (Pritchard. G.H. and Turnbull. K. 2002). Over time, the proliferation of this weed simplifies the native vegetation.

It is difficult to eradicate Bridal Creeper without damaging nearby native species. The use of a low rate of Metsulfuron Methyl (e.g. Brush-off, Ally) at 0.10g per 5 litres of water has proven to be effective in the first year of weed control. The aim is to "calibrate" the rate at 5 grams per hectare. Weedspraying of bridal creeper should occur from late July to late September for maximum effect. A surfactant must be added to the spraymix, to ensure success. The infestation will require a number of years to eradicate. Care must be taken to not "double spray", and to avoid native species as much as possible. Using a vegetable dyemarker will assist in achieving this. Using Metsulfuron methyl requires patience as it is slow acting. Its full effects are realised the *following year*. Metsulfuron methyl is residual for up to 22 months in Australian soils – it is important to not "double spray" bridal creeper. In the second year of control, it can be more effective to carefully use Glyphosate. Professional Bush Regeneration contractors are frequently contracted to undertake control of this weed species.

Importantly, it is inappropriate to use the weed spraying technique to control large woody weeds (e.g. African Boxthorn) in bushland areas. The level of damage to surrounding native species caused by off-target effects can be catastrophic.

For African Boxthorn, the cut and swab method is the appropriate method.

Cut and Swab Method

If the weed is too large to pull by hand, or the soil is too dry for to pull weeds out, using the cut and swab method is advised. First, cut the stem of the plant as close to the ground as possible. Then within a few seconds, swab the cut stump using an adapted shoe polish applicator (see photo below) which has been filled with Glyphosate at 1:5. For boxthorn, it is useful to swab twice. After the first swab, wait for 30 seconds for the herbicide to be absorbed, then swab the stump again. The herbicide needs to be applied to the stump almost immediately after being cut, for the herbicide to be effective.



Photo 4: Demonstration of cutting and swabbing – step 1



Photo 5: Demonstration of cutting and swabbing – step 2



Photo 6: Demonstration of cutting and swabbing – step 3

Revegetation of tracks and adjacent council land

Revegetation is one strategy that can enhance the appearance of the Reserves. Revegetation can buffer existing native vegetation, and provide more habitat if done effectively.

Following investigations of land ownership and boundary locations etc, there may be several options for the Wakefield Regional Council to consider, that may be useful for the reserve's future. Consideration could include:

- Initially to revegetate all the tracks within each section (only after fencing has occurred)
- Ensure that grazing pressure from rabbits, kangaroos and wandering stock is stopped
- Use the revegetation plants as a seed-bank to use for further larger-scale revegetation

For any revegetation, seed should be collected from local species present within the Reserves and from nearby roadsides. Accurate records of seed collected are important.

The nearby Nantawarra Crown Land reserve managed by Wakefield Regional Council contains similar vegetation associations as in Beaufort, and can serve as information on possible planting species and as a seed source.

The Sections of the Reserves

Parcel H230700 S498 and S499 (Northern Most Section, north of Haynes Road)

These sections of Reserve are very degraded (refer Map 2). The reserves appear to be dedicated as stone reserves managed by Wakefield Regional Council. Over several decades, they appear to have been used as a dumping area, general rubbish as well as some stone quarrying. Due to time limitations, not much time was spent surveying this section. Native plant species recorded in the area is shown in Table XX. Several bird species were observed within this section, including:

- Adelaide Rosella
- White-Browed Babbler
- Singing Honeyeater
- Red Wattlebird.

These bird species would occur across each of the sections of the Reserve. The openness of this section allowed easier viewing of birds which also contained the only *Eucalyptus porosa* (mallee box) tree across all sections (observed). One could assume that the soil is better, as mallee box normally occurs in deeper soils – consequently a heavily cleared tree species. Other trees of this species may have been removed for agricultural purposes. This section may have been leased under an arrangement with the Wakefield Regional Council, as it appears to have issues which often occur on leased land.

Parcel H230700 S663 North-eastern section (adjacent and north of Beaufort Road)

The diversity of plant species was the highest of all the different sections in this section of the reserve. Unfortunately, there are many tracks which intersect across this section, which causes many issues for native vegetation. The tracks are very wide too. (Refer Map 3)

Weeds are prolific within this section. Ward's weed is frequently found, impacting greatly on the possibility of regeneration of small herbaceous native species. Boxthorn observed on the day, are indicated on the map. This weed is easily controlled compared with many of the other weed species. Bridal Creeper is more difficult and its control is best left to trained bush regeneration workers.

This section has been heavily impacted by vehicles, which have created many tracks that have continued to expand over the past decades. These should be closed using fencing and immoveable items (e.g. large rocks etc), as a deterrent. Nearby landholders are using the main middle track as a short cut.

A further concern is the use of a SA Water meter, which appears to be on this section. There is also a nearby water trough. This may appear to be inappropriate use of the reserve, but involvement with the local community will be needed to ascertain its use. It may be being used by bird fauna, in which case its presence may be essential for birds in the area. If it is to be removed, it needs to be carefully planned to take account of the local birds making use of it over the summer months.

Parcel H230700 S664 Southern Section (adjacent and south of Beaufort Road)

Whilst slightly larger than the "northern" section, it has less diversity in native plant species. However there a several native species which are present on this section, but not on other sections.

Several of the mallee trees within this section have significant hollows which would be used regularly be several native fauna species eg., birds, reptiles and bats. Retention of these hollows is very important. Unfortunately, evidence of cutting trees for firewood was observed in this section.

Weed issues are similar to the North-eastern section.

Parcel H230700 S665 South-Western Section (small patch within it)

This small area can be reached by walking across cropping land (probably leased from Wakefield Regional Council - refer map 5). It is however in poor condition. It is infested by several weed species, and is heavily grazed (by stock and rabbits). Two well established rabbit warrens need to be destroyed and regular rabbit control work done, to ensure that further damage from grazing is less likely.

Depending on the outcome of the investigation and status of land boundaries, leased areas etc, it may be worthwhile considering the fencing of remnant vegetation areas, and/or to undertake revegetation of the cropped area. If done well, the revegetation would form part of the existing vegetation on Beaufort Reserves, and increasing the benefits previously mentioned.

Parcel D127159 A30 Western Section (patches of vegetation)

This patch of vegetation is closest to the Augusta Highway (Refer to Map 6). It was uncertain as to where the boundary was between private landholding and Council land. Nevertheless, a species list was made for this small area of vegetation.

A visual assessment of this small area leaves one wondering if the trees have been cleared, or if it was a saltbush area. Most of this patch is part of a low-lying area and is possibly salt affected. The weeds are prolific and include onion weed, boxthorn and several other species.

The proximity to the Augusta Highway begs the question as to whether or not this patch was affected during the construction of the nearby highway (e.g. for storing machinery etc).

Section of Road Reserve, east of Beaufort

This area was surveyed and included in this plan, due to the width of the roadside vegetation, on the southern side of the Beaufort Road (Refer to maps 7 and 8). The vegetation is a continuation of the vegetation found in the southern section, however there are several species recorded which were not seen in the Beaufort Reserves, as well as a small but valuable grassland area. The grassland area is most likely to contain lily species which had already died back due to the dry year.

The roadside provides a clue to the species that may have existed within the reserves, which may have been there before degradation of the reserves began. For example, the presence of a dead *Callitris gracilis* (southern cypress pine) along the roadside could indicate that this species may have occurred in the Reserves, and could be considered for inclusion in any plantings on the tracks within the reserves.

Adrian Shackley provides further suggestions for the fencing and re-alignment of fences, which would aid in the management of this important roadside vegetation. Attached in the Addendum at the end of this report.

Table 1: Species list for Parcel H230700 S663 North-eastern section (adjacent and north of Beaufort Road)

Species	Common Name	Comments
Eucalyptus socialis	Beaked red-mallee	
Atriplex stipitata	Bitter saltbush	Not palatable – less likely to be grazed
Santalum acuminatum	Quandong	
Zygophyllum aurantiacum	Shrubby twin-leaf	
Maireana erioclada	Rosy bluebush	
Sclerolaena diacantha	Grey bindyi	
Pittosporum angustifolium	Native apricot	
Stipa sp	Spear grass	
Geijera linearifolia	Sheep bush	
Senna artemisioides ssp. coriacea	Broad-leafed desert senna	
Senna artemisioides ssp. petiolaris	Desert senna	
Rhagodia spinescens	Spiny saltbush	
Nitraria billardierei	Nitre-bush	
Olearia muelleri	Mueller's daisy-bush	Low number of plants
Enchylaena tomentosa	Ruby saltbush	
Rhagodia parabolica	Mealy saltbush	
Acacia oswaldii	Umbrella wattle	Low number of plants
Maireana radiata	Radiate bluebush	
Maireana trichoptera	Hairy-fruit bluebush	
Eucalyptus gracilis	Yorrell	
Westringia rigida	Stiff westringia	Low number of plants
Austrostipa platychaeta	Flat-awn spear-grass	
Melaleuca lanceolata	Dryland tea-tree	
Exocarpus aphyllus	Leafless cherry	
Austrostipa sp.	Spear-grass	
Atriplex acutibractea spp.(?)	Pointed saltbush	
Austrostipa elegantissima	Feather spear-grass	
Acacia hakeoides	Hakea wattle	
Austrodanthonia sp	Wallaby grass	
Teucrium racemosum	Grey germander	
Enteropogon acicularis	Curly windmill grass	
Acacia ligulata	Dune wattle	
Vittadinia sp	New-holland daisy	
Austrostipa drummondii	Cottony spear-grass	

Table 2: Species list for Parcel H230700 S664 Southern Section (adjacent and south of Beaufort Road)

Species	Common Name	Comments
Eucalyptus socialis	Beaked red-mallee	
Atriplex stipitata	Bitter saltbush	Not palatable – less likely to be grazed
Santalum acuminatum	Quandong	
Zygophyllum aurantiacum	Shrubby twin-leaf	
Maireana eriocladа	Rosy bluebush	
Sclerolaena diacantha	Grey bindyi	
Pittosporum angustifolium	Native apricot	
Stipa sp	Spear grass	
Geijera linearifolia	Sheep bush	
Senna artemisioides ssp. coriacea	Broad-leafed desert senna	
Senna artemisioides ssp. petiolaris	Desert senna	
Eucalyptus brachycalyx	Gilja	
Rhagodia spinescens	Spiny saltbush	
Nitraria billardierei	Nitre-bush	
Olearia muelleri	Mueller's daisy-bush	Low number of plants
Enchylaena tomentosa	Ruby saltbush	
Rhagodia parabolica	Mealy saltbush	
Acacia oswaldii	Umbrella wattle	Low number of plants
Maireana radiata	Radiate bluebush	
Maireana trichoptera	Hairy-fruit bluebush	
Eucalyptus gracilis	Yorrell	
Westringia rigida	Stiff westringia	Low number of plants
Austrostipa platychaeta	Flat-awn spear-grass	

Table 3: Species list for Parcel H230700 S665 South-Western Section (small patch within it)

Species	Common Name	Comments
Eucalyptus socialis	Beaked red-mallee	
Stipa sp	Spear grass	
Geijera linearifolia	Sheep bush	
Enchylaena tomentosa	Ruby saltbush	
Rhagodia parabolica	Mealy saltbush	
Maireana trichoptera	Hairy-fruit bluebush	
Eucalyptus gracilis	Yorrell	
Enteropogon acicularis	Curly windmill grass	
Maireana brevifolia	Short-leaf bluebush	
Austrodanthonia sp	Wallaby grass	
Maireana rohrlachii	Rohrlach's bluebush	
Acacia hakeiodes	Hakea wattle	

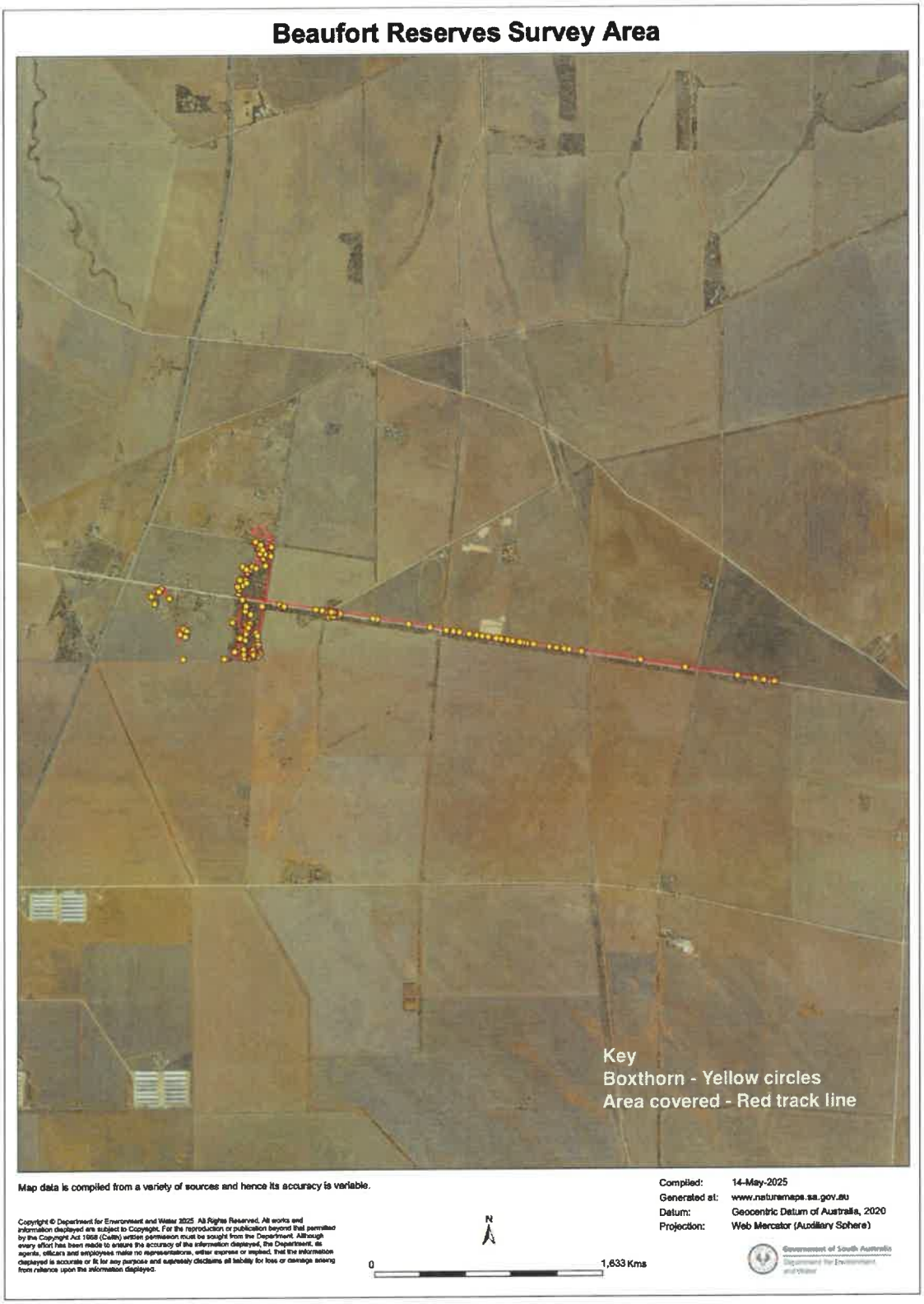
Table 4: Species list for Parcel D127159 A30 Western Section (patches of vegetation)

Species	Common Name	Comments
Eucalyptus socialis	Beaked red-mallee	
Stipa sp	Spear grass	
Geijera linearifolia	Sheep bush	
Enchylaena tomentosa	Ruby saltbush	
Rhagodia parabolica	Mealy saltbush	
Maireana trichoptera	Hairy-fruit bluebush	
Eucalyptus gracilis	Yorrell	
Enteropogon acicularis	Curly windmill grass	
Maireana brevifolia	Short-leaf bluebush	
Austrodanthonia sp	Wallaby grass	
Maireana rohrlachii	Rohrlach's bluebush	
Acacia hakeiodes	Hakea wattle	
Sclerolaena diacantha	Grey bindyi	
Senna artemisioides ssp. petiolaris	Desert senna	
Senna artemisioides ssp. artemisioides	Silver senna	
Nitraria billardierei	Nitre-bush	
Acacia oswaldii	Umbrella wattle	

Table 5: Species list for Section of Roadside, east of Beaufort

Species	Common Name	Comments
Rhagodia sp. (candolleana?)	Sea-berry saltbush	
Acacia sclerophylla	Hard-leaf wattle	
Austrodanthonia caespitosa	Common wallaby-grass	
Exocarpus aphyllus	Leafless cherry	
Melaleuca lanceolata	Dryland tea-tree	
Callitris gracilis	Southern cypress-pine	Dead
Eucalyptus porosa	Mallee box	
Westringia rigida	Rigid wattle	
Nitraria billardierei	Nitre-bush	
Eucalyptus gracilis	Yorrell	

Map 1: Beaufort Reserves Survey Area



Map 2: Parcel H230700 S498 (Northern Most Section)
Clearly more degraded than other sections of the Reserves. Leasing and/or use of this section needs further investigation.



Map 3: Parcel H230700 S663 North-eastern section (adjacent and north of Beaufort Road



Map 4: Parcel H230700 S664 Southern Section (adjacent and south of Beaufort Road)



Map 5: Parcel H230700 S665 South-Western Section (small patch within it)
It is essential to determine land tenure boundaries before undertaking work.



Map 6: Parcel D127159 A30 Western Section (patches of vegetation)
It is essential to determine land tenure boundaries before undertaking work.



Map 7: Section 1 of Roadside east of Beaufort



Map 8: Section 2 of Roadside east of Beaufort



References:

Gammage, B, (2011), "The Biggest Estate on Earth, How Aborigines Made Australia" Allen and Unwin, Crows Nest, NSW 2065.

Pritchard. G.H. and Turnbull. K. (2002). "Evaluation of herbicides for the control of the environmental weed bridal creeper (*Asparagus asparagoides*)" in Plant Protection Quarterly Vol. 17 (1)

Climate and weather data http://www.bom.gov.au/climate/averages/tables

Bird List from the Atlas of Living Australia August 2024 – 1 km radius from town area.

Hundred of Goyder Survey Diagram Book pages 30, 31, 32

Further Reading:

Berkinshaw. T. 2006., "Native Vegetation of the Northern & Yorke Region", Greening Australia for Northern and Yorke NRM Board,

Hobbs. R. J. and Yates. C.J. 2000., "Temperate Eucalypt Woodlands in Australia", Surrey Beatty and Sons, Chipping Norton, NSW 2170

Richardson. F.J. Richardson. R.G. and Shepherd. R.C.H. 2011., "Weeds of the South East. An Identification Guide for Australia. Second Edition", Meredith, Victoria 3333

Shackley. A. Allanson. A. and Kuys. J. 2014., "A Biological Survey of Lower North Grasslands of South Australia", Irongrass Environmental Rehabilitation Services and Gawler Environmental Heritage Association, South Australia.

Marshall. Adrian Williams. Nicholas. Morgan John. 2015., Land of Sweeping Plains: Managing and Restoring the Native Grasslands of South-eastern Australia CSIRO.

Addendum:

Further notes from Adrian Shackley regarding fencing of Beaufort Road Reserve

Section of Road Reserve, east of Beaufort

The road reserve is 60 metres wide by about 8.5km long between Todd Road and Kenderleigh Road. The first section from Todd Road to Beaufort Cemetery Road is fenced on both sides of the road reserve. The remainder unfortunately has had the original road reserve fence removed and has been fenced relatively recently to represent a road reserve only about 20 metres wide. The remaining width of about 40 metres of road reserve is fenced into the neighbouring paddocks. The majority of the road reserve vegetation remains in place, notwithstanding this fencing change, but towards the eastern end has been cultivated and cropped to a significant extent.

The area of road verge remnant vegetation that is still present is about 25 hectares. That compares with about 14 hectares in the main areas of remnant vegetation adjacent the Beaufort town area in Crown Land and road reserves. Forty-two native plant species were recorded in this area of road reserve by Adrian Shackley [November 2023 and September 2024} and the authors September 2024. See Table 6 below.

Two of these 42 native plant species were recorded on this section of road reserve but not elsewhere in Beaufort – colour highlighted in Table 10. While the present regular cropping of the area of road reserve [where occurring] and adjacent paddocks is likely having minimal effect of the remnant vegetation in the absence of grazing, if the relatively new fencing on the southern side of Beaufort Road could be relocated to the correct boundary of the road reserve this would ensure that the remnant vegetation would be more readily managed for access, weeds, rabbits etc and that future stock grazing would not occur.

This section of road reserve is a major corridor connecting with native vegetation on the adjoining roads to the north and south and providing a movement corridor for birds, reptiles, echidnas and other native fauna.

Map showing 8.5 km extent of 60 metre road reserve east of Beaufort.



Section of Road Reserve, west of Beaufort

A similar 60 metre wide road reserve corridor extends along Beaufort Road east of Beaufort town area some 12.9 kilometres to the Copper Coast Highway near Kulpara. The 5.2 km section within Wakefield Regional Council is also mainly fenced on the southern side only to a width of about 20 metres with the

remaining area subject to cropping. This fencing should be relocated to match the title boundary and allow Council to manage its land appropriately.

The 7.7 km section in Barunga West Council has the full 60 metres fenced as road reserve and contains significant areas of remnant vegetation. The vegetation west of Beaufort is mainly a mix of grassland and saltbush shrubs with very few trees or taller shrubs. This reflects the historical survey records in the area recording generally open arable land without trees.

These wider road reserves were previously part of the extensive stock route reserves set up in the early surveying of land for sale for farming. The road reserves were reduced from about 400 metres to 60 metres in 1888. Detailed recording of vegetation on these stock routes was recorded in 1888 – shown in the Hundred of Goyder Survey Diagram Book pages 30, 31 and 32.

Table 6: Beaufort native plants summer 23-24 identified by Adrian Shackley

SPECIES	COMMONNAME	FAMILYNAME	Aust	SA	NY region	NY StV subreg
Acacia ligulata	Umbrella Bush	LEGUMINOSAE			LC	LC
Acacia oswaldii	Umbrella Wattle	LEGUMINOSAE			LC	LC
Atriplex stipitata	Bitter Saltbush	CHENOPODIACEAE			LC	LC
Austrostipa elegantissima	Feather Spear-grass	GRAMINEAE			LC	LC
Austrostipa eremophila	Rusty Spear-grass	GRAMINEAE			LC	LC
Austrostipa nitida	Balcarra Spear-grass	GRAMINEAE			LC	LC
Austrostipa nodosa	Tall Spear-grass	GRAMINEAE			LC	LC
Austrostipa scabra ssp.	Spear-grass	GRAMINEAE			LC	LC
Enchylaena tomentosa var. tomentosa	Ruby Saltbush	CHENOPODIACEAE			LC	LC
Enneapogon nigricans	Black-head Grass	GRAMINEAE			LC	LC
Enteropogon acicularis	Umbrella Grass	GRAMINEAE			LC	LC
Erodium crinitum	Blue Heron's-bill	GERANIACEAE			LC	LC
Eucalyptus gracilis	Yorrell	MYRTACEAE			NT	LC
Eucalyptus porosa	Mallee Box	MYRTACEAE			LC	LC
Eucalyptus socialis ssp. socialis	Beaked Red Mallee	MYRTACEAE			NT	RA
Euphorbia drummondii complex	Caustic Euphorbia	EUPHORBIACEAE			LC	LC
Exocarpos aphyllus	Leafless Cherry	SANTALACEAE			LC	LC
Geijera linearifolia	Sheep Bush	RUTACEAE			NT	LC
Lomandra effusa	Scented Mat-rush	LILIACEAE			LC	LC
Maireana aphylla	Cotton-bush	CHENOPODIACEAE			LC	LC
Maireana brevifolia	Short-leaf Bluebush	CHENOPODIACEAE			LC	LC
Maireana rohrlachii	Rohrlach's Bluebush	CHENOPODIACEAE		Rare	VU	VU
Melaleuca lanceolata	Dryland Tea-tree	MYRTACEAE			NT	NT
Nitraria billardierei	Nitre-bush	ZYGOPHYLLACEAE			LC	LC
Pittosporum angustifolium	Native Apricot	PITTOSPORACEAE			LC	LC
Rhagodia parabolica	Mealy Saltbush	CHENOPODIACEAE			LC	LC
Rhagodia spinescens	Spiny Saltbush	CHENOPODIACEAE			LC	LC
Roepera [Zygophyllum] confluens	Forked Twinleaf	ZYGOPHYLLACEAE			LC	LC
Rytidosperma caespitosa	Common Wallaby-grass	GRAMINEAE			LC	LC
Salsola australis	Buckbush	CHENOPODIACEAE			LC	LC
Sclerolaena diacantha	Grey Bindyi	CHENOPODIACEAE			DD	DD
Senna artemisioides ssp. coriacea	Broad-leaf Desert Senna	LEGUMINOSAE			NT	RA
Senna artemisioides ssp. filifolia	Fine-leaf Desert Senna	LEGUMINOSAE			LC	LC
Senna artemisioides ssp. petiolaris	Flat-leaf Desert Senna	LEGUMINOSAE			NT	RA
Vittadinia cervicularis var. cervicularis	Waisted New Holland Daisy	COMPOSITAE			LC	LC
Westringia rigida	Stiff Westringia	LABIATAE			NT	LC

Conservation ratings Regional
EN Endangered
VU Vulnerable
RA Rare
NT Near threatened
NE not evaluated, species changed
LC Least Concern

Table 7: Birds species identified within 1km radius of Beaufort Township

Vernacular name	Species	Locality	Year
Inland Australian Hobby	Falco longipennis		1984
Australian White Ibis	Threskiornis moluccus	A1 Adelaide - Port Augusta	2018
Australian Magpie	Gymnorhina tibicen	HaynesTodd Roads	2014
Australian Pipit	Anthus novaeseelandiae		1985
Australian Raven	Corvus coronoides	Princes Hwy, Beaufort	2000
Black Falcon	Falco subniger	Princes Hwy	2022
Black Kite	Milvus migrans	Beaufort	2014
Black-faced Cuckoo-shrike	Coracina novaehollandiae	A1 Adelaide - Port Augusta	2018
Black-shouldered Kite	Elanus axillaris	HaynesTodd Roads	2014
Brown Falcon	Falco berigora	Beaufort - 1K NE	2014
Brown Falcon	Falco berigora	Beaufort	2011
Brown Songlark	Cincloramphus cruralis		1984
Brown-headed Honeyeater	Melithreptus brevirostris		1984
Collared Sparrowhawk	Accipiter cirrocephalus	Beaufort Stone Reserve	2001
Common Starling	Sturnus vulgaris	Beaufort Stone Reserve	2001
Crested Pigeon	Ocyphaps lophotes	HaynesTodd Roads	2014
Dusky Woodswallow	Artamus cyanopterus	Beaufort Stone Reserve	2001
Eastern Barn Owl	Tyto javanica		1984
European Eurasian Skylark	Alauda arvensis		1985
Common Starling	Sturnus vulgaris	A1 Adelaide - Port Augusta	2018
Fairy Martin	Petrochelidon ariel		1985
Rock Dove	Columba livia		1985
Galah	Eolophus roseicapilla	Beaufort Stone Reserve	2001
Horsfield's Bushlark	Mirafra javanica		1985
House Sparrow	Passer domesticus	Beaufort Stone Reserve	2001
Jacky Winter	Microeca fascinans		1985
Eastern Little Corella	Cacatua sanguinea		1985
Little Raven	Corvus mellori	Princes Hwy, Beaufort	2000
Magpie-lark	Grallina cyanoleuca	HaynesTodd Roads	2014
Nankeen Kestrel	Falco cenchroides	Beaufort	2010
Noisy Miner	Manorina melanocephala	A1 Adelaide - Port Augusta	2018
Eastern Fork-tailed Swift	Apus pacificus		1987
Pallid Cuckoo	Heteroscenes pallidus		1985
Rainbow lorikeet	Trichoglossus moluccanus	A1 Adelaide - Port Augusta	2018
Red Wattlebird	Anthochaera carunculata	A1 Adelaide - Port Augusta	2018
Red-rumped Parrot	Psephotus haematonotus	Princes Hwy, Beaufort	2000
Rock Dove	Columba livia	Beaufort Stone Reserve	2001
Silver Gull	Chroicocephalus novaehollandiae	A1 Adelaide - Port Augusta	2018
Singing Honeyeater	Gavicalis virescens	Beaufort Stone Reserve	2001
Spotted Harrier	Circus assimilis		1984
Stubble Quail	Coturnix pectoralis		1985
Wedge-tailed Eagle	Aquila audax	Princes Hwy	2001
Weebill	Smicrornis brevirostris		1985
Welcome Swallow	Hirundo neoxena	A1 Adelaide - Port Augusta	2018
Whiskered Tern	Chlidonias hybrida	A1 Adelaide - Port Augusta	2018
Whistling Kite	Haliastur sphenurus	Beaufort	2014
White-browed Babbler	Pomatostomus superciliosus		1985
White-fronted Chat	Epthianura albifrons		1985
White-plumed Honeyeater	Ptilotula penicillata	Beaufort Stone Reserve	2001
Willie Wagtail	Rhipidura leucophrys	Princes Hwy, Beaufort	2000
Yellow-rumped Thornbill	Acanthiza chrysorrhoa		1985
Yellow-throated Miner	Manorina flavigula	Beaufort Stone Reserve	2001

Table 8: Species list for Section of Beaufort Road reserve, east to Kenderleigh Road

SPECIES	COMMONNAME	Aust	SA	NY region	NY StV subreg
Acacia hakeoides	Hakea Wattle			LC	LC
Acacia ligulata	Umbrella Bush			LC	LC
Acacia sclerophylla var. sclerophylla	Hard-leaf Wattle			LC	LC
Alectryon oleifolius ssp. canescens	Bullock Bush			LC	LC
Atriplex acutibractea ssp. karoniensis	Pointed Saltbush			RA	RA
Atriplex stipitata	Bitter Saltbush			LC	LC
Austrostipa elegantissima	Feather Spear-grass			LC	LC
Austrostipa eremophila	Rusty Spear-grass			LC	LC
Austrostipa nitida	Balcarra Spear-grass			LC	LC
Austrostipa nodosa	Tall Spear-grass			LC	LC
Austrostipa scabra ssp.	Spear-grass			LC	LC
Callitris gracilis	Southern Cypress Pine			NT	NT
Enchylaena tomentosa	Ruby Saltbush			LC	LC
Enneapogon nigricans	Black-head Grass			LC	LC
Enteropogon acicularis	Umbrella Grass			LC	LC
Eucalyptus brachycalyx	Gilja			NT	LC
Eucalyptus gracilis	Yorrell			NT	LC
Eucalyptus porosa	Mallee Box			LC	LC
Eucalyptus socialis ssp. socialis	Beaked Red Mallee			NT	RA
Euphorbia drummondii complex	Caustic Euphorbia			LC	LC
Exocarpos aphyllus	Leafless Cherry			LC	LC
Geijera linearifolia	Sheep Bush			NT	LC
Maireana aphylla	Cotton-bush			LC	LC
Maireana brevifolia	Short-leaf Bluebush			LC	LC
Maireana radiata	Radiata Bluebush			LC	LC
Maireana rohrlachii	Rohrlach's Bluebush		Rare	VU	VU
Maireana trichoptera	Hairy-fruit Bluebush			LC	LC
Melaleuca lanceolata	Dryland Tea-tree			NT	NT
Myoporum montanum	Native Myrtle			LC	LC
Myoporum platycarpum ssp.	Mallee Sandalwood			LC	LC
Nitraria billardierei	Nitre-bush			LC	LC
Pittosporum angustifolium	Native Apricot			LC	LC
Rhagodia parabolica	Mealy Saltbush			LC	LC
Roepera aurantiaca	Shrubby Twinleaf			LC	LC
Rytidosperma caespitosa	Common Wallaby-grass			LC	LC
Salsola australis	Buckbush			LC	LC
Sclerolaena diacantha	Grey Bindyi			DD	DD
Senna artemisioides ssp. coriacea	Broad-leaf Desert Senna			NT	RA
Senna artemisioides ssp. petiolaris	Flat-leaf Desert Senna			NT	RA
Vittadinia cuneata var. cuneata	Fuzzy New Holland Daisy			NE	NE
Vittadinia gracilis	Woolly New Holland Daisy			DD	DD
Westringia rigida	Stiff Westringia			NT	LC

Table 9: Beaufort stone reserves sections 498, 499 managed by Wakefield Regional Council

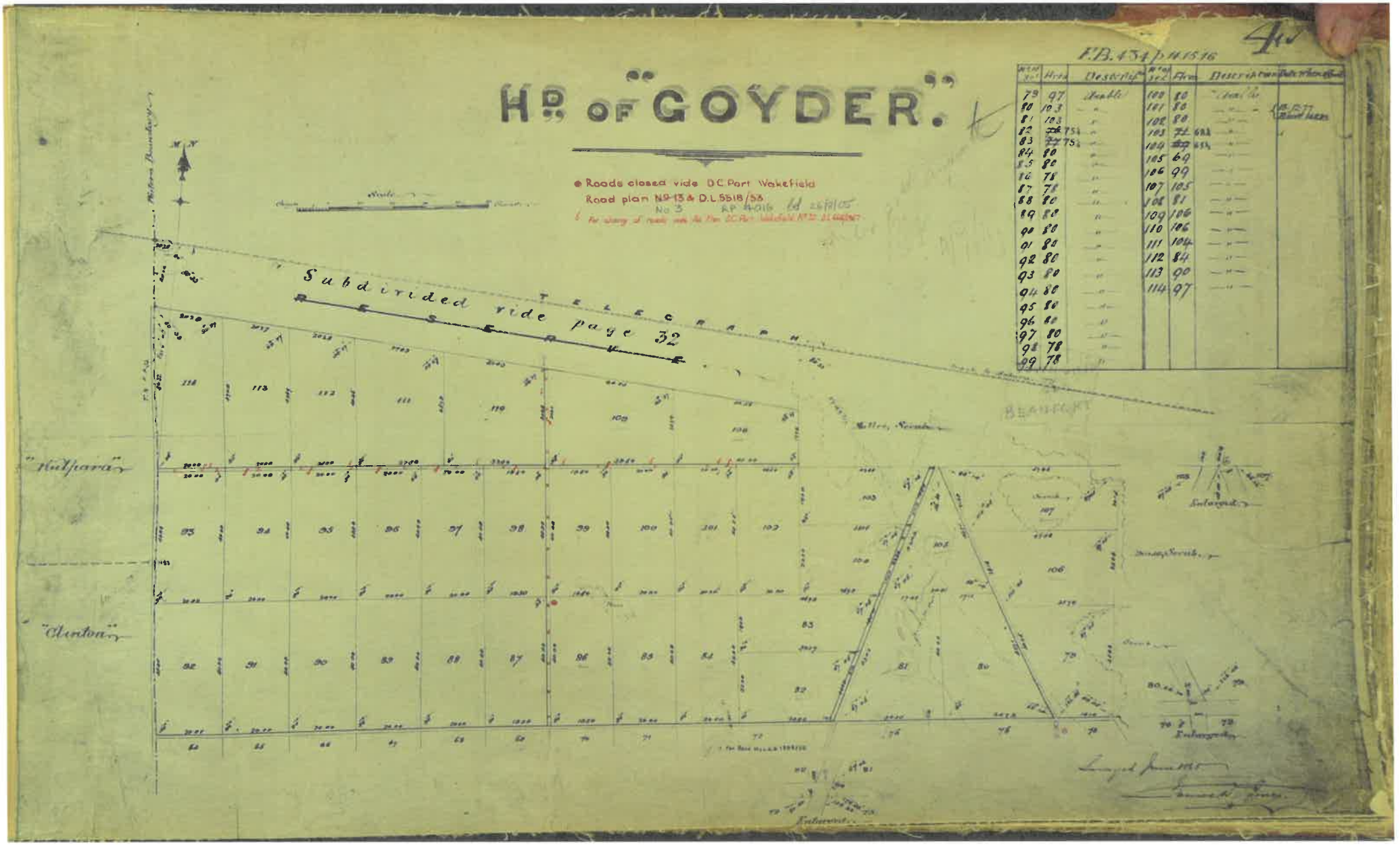
SPECIES	COMMONNAME	Aust	SA	NY region	NY StV subreg
Acacia hakeoides	Hakea Wattle			LC	LC
Austrostipa eremophila	Rusty Spear-grass			LC	LC
Austrostipa nodosa	Tall Spear-grass			LC	LC
Austrostipa scabra ssp.	Spear-grass			LC	LC
Enchylaena tomentosa var. tomentosa	Ruby Saltbush			LC	LC
Enteropogon acicularis	Umbrella Grass			LC	LC
Eucalyptus brachycalyx	Gilja			NT	LC
Eucalyptus gracilis	Yorrell			NT	LC
Eucalyptus porosa	Mallee Box			LC	LC
Eucalyptus socialis	Beaked Red Mallee			NT	RA
Maireana brevifolia	Short-leaf Bluebush			LC	LC
Rhagodia parabolica	Mealy Saltbush			LC	LC
Roepera aurantiacium	Shrubby Twinleaf			LC	LC
Rytidosperma caespitosum	Common Wallaby-grass			LC	LC
Rhagodia preissii ssp. preissii	Mallee Saltbush			LC	LC
Vittadinia cervicularis var. cervicularis	Waisted New Holland Daisy			LC	LC

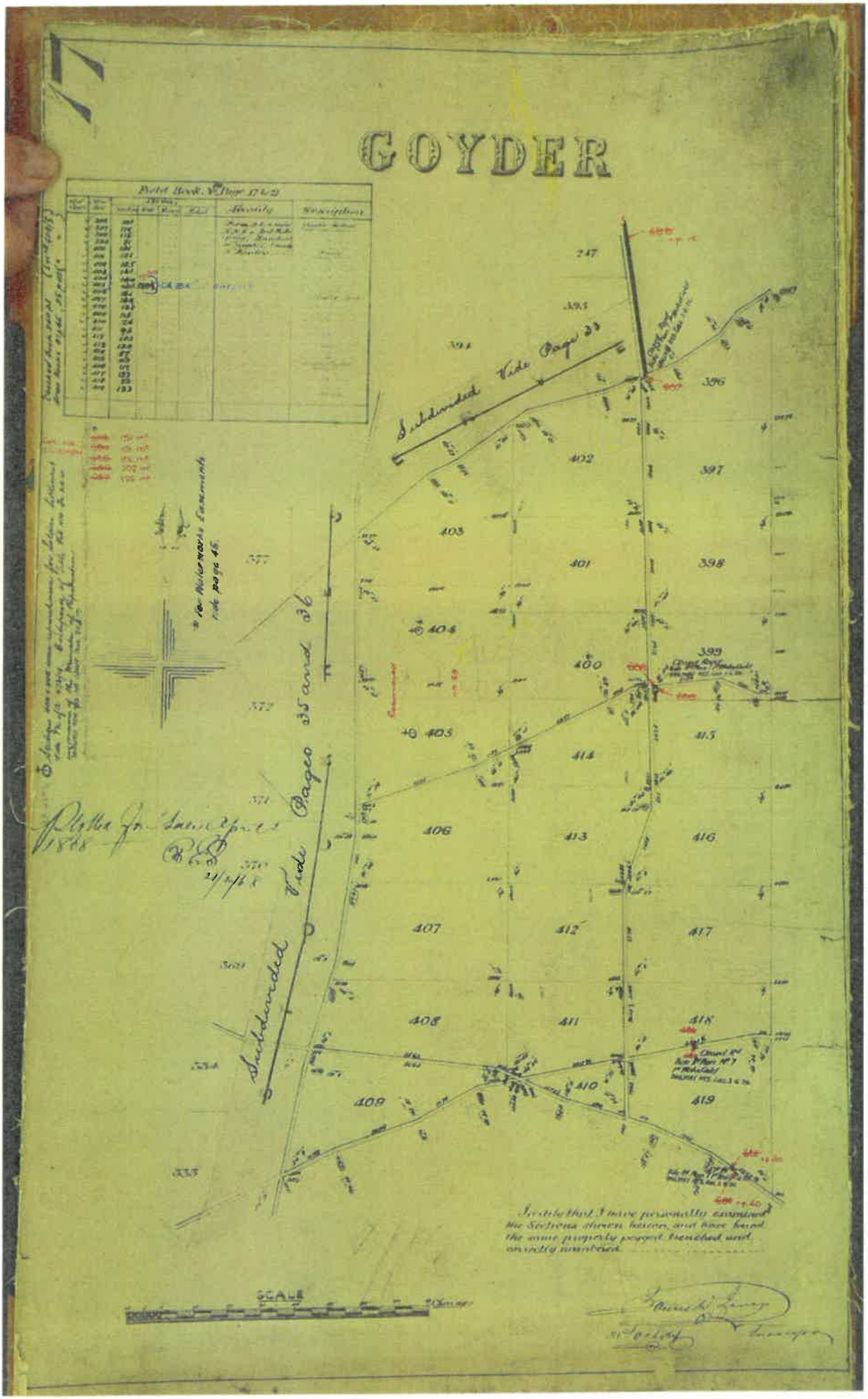
Table 10: Native plant species in 1997 Biological Survey site on/near Section 658 Stone reserve

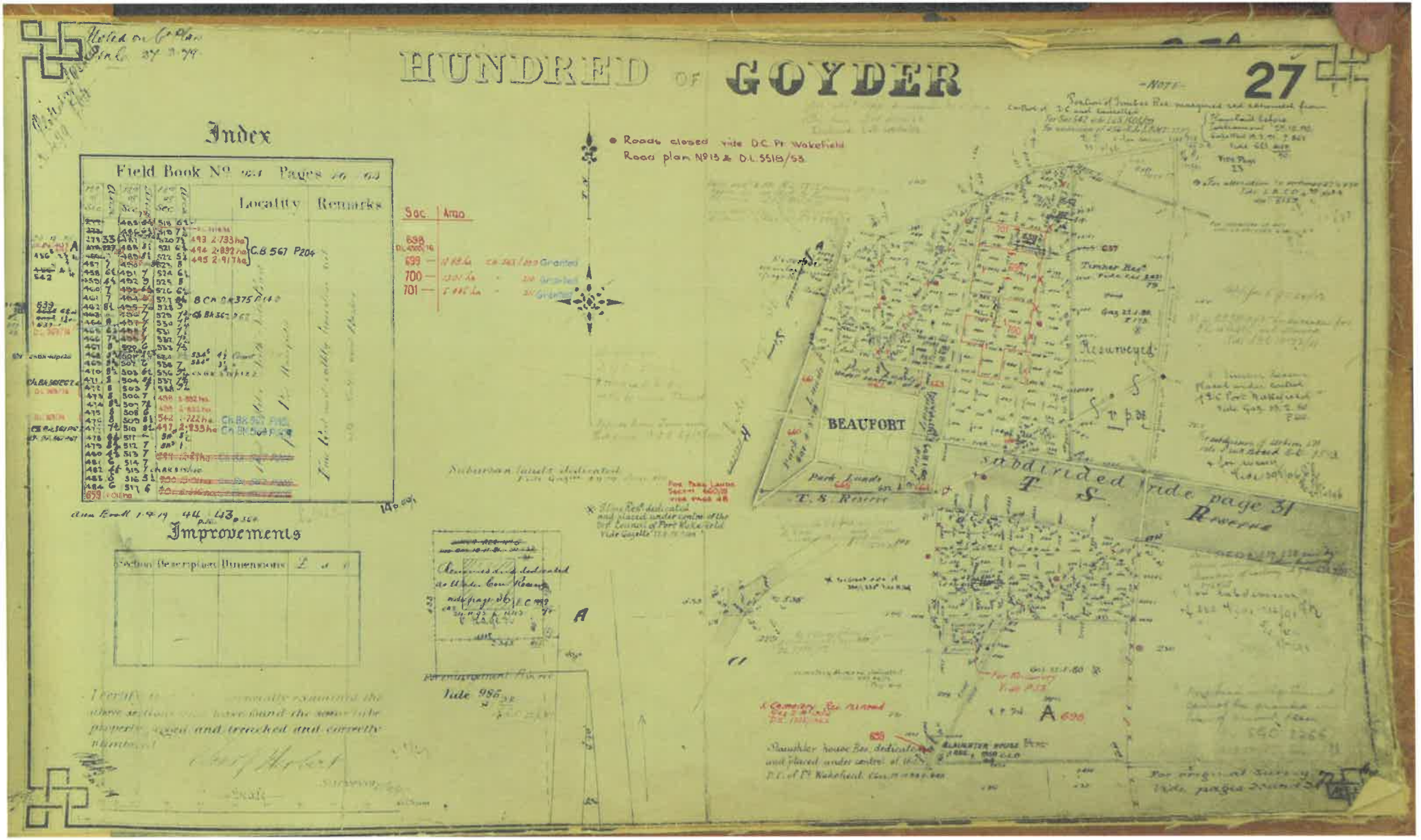
SPECIES	COMMON NAME	Aust	SA	NY region	NY StV subreg
Acacia oswaldii	Umbrella Wattle			LC	LC
Alectryon oleifolius ssp. canescens	Bullock Bush			LC	LC
Atriplex semibaccata	Berry Saltbush			LC	LC
Austrostipa drummondii	Cottony Spear-grass			LC	LC
Austrostipa elegantissima	Feather Spear-grass			LC	LC
Austrostipa puberula	Fine-hairy Spear-grass			NT	RA
Enchylaena tomentosa var. tomentosa	Ruby Saltbush			LC	LC
Eucalyptus socialis ssp. socialis	Beaked Red Mallee			NT	RA
Geijera linearifolia	Sheep Bush			NT	LC
Maireana brevifolia	Short-leaf Bluebush			LC	LC
Oxalis perennans	Native Sorrel			LC	LC
Pittosporum angustifolium	Native Apricot			LC	LC
Rhagodia parabolica	Mealy Saltbush			LC	LC
Rytidosperma caespitosa	Common Wallaby-grass			LC	LC
Salsola australis	Buckbush			LC	LC
Sclerolaena diacantha	Grey Bindyi			DD	DD

Table 11: Introduced plant species in 1997 Biological Survey site on/near Section 658 Stone reserve - species not recorded elsewhere in Beaufort data

SPECIES	COMMON NAME
Avena barbata	Bearded Oat
Bromus diandrus	Great Brome
Carrichtera annua	Ward's Weed
Centaurea melitensis	Maltese Cockspur
Echium plantagineum	Salvation Jane
Lycium ferocissimum	African Boxthorn
Marrubium vulgare	Horehound Date
Mesembryanthemum crystallinum	Common Ice-plant
Mesembryanthemum nodiflorum	Slender Iceplant
Reichardia tingitana	False Sowthistle
Sisymbrium erysimoides	Smooth Mustard Date
Sonchus oleraceus	Common Sow-thistle


HD. OF GOYDER.
Roads closed vide D.C. Port Wakefield
Road plan No 13 & D.L. 5518/58
No 3 RP 4016
Subdivided vide page 32
TELEGRAPH
"Hutpara"
"Clarton"
F.B. 434 p 41516
4


GOYDER
Subdivided Vide Page 33
Subdivided Vide Pages 35 and 36
SCALE


HUNDRED OF GOYDER
27
Index
Field Book No
Pages
Locality
Remarks
Improvements
Roads closed vide D.C. Pt Wakefield
Road plan No 13 & D.L. 5518/53
BEAUFORT
Reserved
T.S. Reserve
subdivided vide page 31
Reserve
Park Lands
Suburban Lands dedicated
Slaughter House Res. dedicated
and placed under control of the
D.C. of Pt Wakefield
Cemetery Res. reserved
vide P.G.
Vide 986
Granted
Granted
Granted

HUNDRED of GOYDER

30

REFERENCE

Field Book No. 1589 Pages 46 13

Date Offered	Nos of Secs	Areas of Sections	Description	Locality
	322	78	High Mallee Scrub ... Red loamy soil ... Good Grassy patches	From 3 to 5 Miles West of W hitwarta
	323	76	Mallee Scrub and Bushes, and Open Grass Tussock Red Loamy soil	
	559	91.55	High Mallee and Bushes Fairly Grassed Red Loamy soil Open	
	560	79	Do Do	
	645	L.T.O. 29463		

Area of Sections
Roads
Reserves
Total

Area Roads 33.94

IMPROVEMENTS

Section	Description	Dimensions	£	s	d

I certify that I have personally examined the above sections and have found the same to be properly pegged and trenched and correctly numbered.

Surveyor

SCALE 0 5 10 15 20 Chains

198 197 148 195 322 323 559 560 435 434 193 194 433 432 561 645 School Reserve 450

High Mallee Scrub Open and Bushes Red Loamy soil

High Mallee Scrub with bushes Fairly Grassed

Red Sandy Loam Soil

Fairly Grassed

Good Grassy Tussock

Mallee Scrub and Bushes

Patches Red loamy soil

Grassed

Fairly

Open Grass Tussock

Grassed

Mallee and Bushes

HUNDRED OF STOW

No 8 446/58

6 Sec 645 disposed of by the Min. of Education Vide F.D. 16/5/61 C.T. 506/167

ride pages 11 & 20

56

Rolled and drawn 2 Copies 14688

REFERENCE

Plotted and Original

HUNDRED OF GOYDER

31

Field Book No. 1589 Pages 23-44 & 11-12.

Date Offered	No's of Sec's	Areas of Sections	Description		Locality
	561	82	Open Grass Tussocks. High Mallee Scrub and Bushes Red Loamy soil		From Onkaparinga to Three Miles East of Beaufort Township.
	562	65	High Mallee Scrub and Thick bushy Red Loamy soil Grassy Patches		
	563	69 64¼	Do	Do	
	564	94	Do	Do	
	565	70	Do	Do	
	566	20	Do	Do	
	567	13	Do	Do	

Area of Sections
" Roads
" Reserves
Total

IMPROVEMENTS

Section	Description	Dimensions	£	s	d

All I certify that I have personally examined the above sections and have found the same to be properly pegged and trenched and correctly numbered.

Wm. G. Jones Surveyor May 27

SCALE 0 10 20 30 40 Chains

• Roads closed vide D.C. Pt. Wakefield Roads plan No 13 & D.L. 5518/53.

P.L.Os 514 513 512 511 510 273 275

PARK LANDS

567 565 564

566

515 516 517 518 519 520 521 522 280

276 277 433

564 563 562 561 560

Open Tussocky Grass Country

Red Loamy Soil

280 455 452 451 450

vide pages 20 24 27

M 154

HUNDRED OF GOYDER

32

Drawn & Lithd 14.6.88

REFERENCE Plan of Original Sections

Field Book No. 1589 Pages 9 to 16

Date Offered	Nos of Secs	Areas of Sections	Description	Locality
	569	55		
	570	73		
	571	70		
	572	74		
	573	73		
	574	66		
	575	5		
	624	Vide p 3/4		
	638	7-385 ro		

From the angles West of Brentford Township

Area of Sections
Roads
Reserves
Total

IMPROVEMENTS

Section	Description	Dimensions	£	s	d.

I certify that I have personally examined the above sections and have found the same to be properly pegged and trenched and correctly numbered

Surveyor

SCALE

Chains

Vide pages A 15 16

