Native Vegetation Council

NATIVE VEGETATION MANAGEMENT PLAN

for a Significant Environmental Benefit

pursuant to the *Native Vegetation Act 1991*

or the *Native Vegetation Regulations 2017*

SEB Area Reference Name: Back Paddock Block

Application Number: NVS2023/4001/888

Registered Proprietor: J. S. Blow

Commencement Year of Management Plan: 2023

Plan authored by: R. Good, EcoFriendly Consultants

Native Vegetation Council
GPO Box 1047 (08) 8303 9777
Adelaide SA 5001 nvc@sa.gov.au

1 RECITAL

1) In this Plan, unless the contrary intention appears –

   a) "Native fauna" means an animal or animals of a species indigenous to South Australia

   b) “SEB Area” means an area of land that is protected and managed for conservation to provide a significant environmental benefit to offset the impacts of clearance of native vegetation that has been approved or may be approved sometime in the future

   c) "Landowner" means the person who has executed this Management Plan as the proprietor of the land containing the SEB Area and includes all successors in title and occupiers of the land. Where two or more persons are named as the Landowner the rights and liabilities under this Management Plan will pass to all such persons jointly and each of them severally

   d) “the Act” means the *Native Vegetation Act 1991*

   e) Words and phrases defined in the Act, shall for the purposes of this Management Plan have the meanings defined in that Act.

2) This Management Plan commences upon approval from the Native Vegetation Council (NVC) and may not be varied or terminated except by a written agreement signed by both the NVC and the Landowner.

3) The obligations outlined in this Management Plan are binding on, and enforceable against all owners and subsequent owners of the land described in Section 2; the plan remains operational in perpetuity or until it is rescinded by mutual agreement of the NVC and the Landowner.

4) The obligations described in this Management Plan specifically apply to the land delineated as the “SEB Area” in Section 2.4.

5) The Landowner shall notify the NVC if any activity on the land is likely to result in damage to the environment or biodiversity assets of the area or if there is any breach or potential breach of this Management Plan.

6) The NVC, any agent of the NVC or any employee or contractor of the Crown, authorised by the NVC may, at any reasonable time, having first notified the landholder:

   a) enter the SEB Area for the purpose of inspecting the land or any fence on the land

   b) enter the SEB Area for the purposes of monitoring the conservation values and condition of the native vegetation and native fauna protected by this Management Plan

7) If the Landowner is in breach of this Management Plan, the NVC may by notice in writing served on the Landowner, specify the nature of the breach and require the Landowner to remedy the breach within a reasonable period of time specified in the notice.

2 SEB AREA

2.1 Landowner and Location Details

Property name	Sunny Glen	
Registered proprietor	Name: J. S. Blow	
	Postal address: PO Box 2, Glen Dale SA 5007	
SEB site manager / provider contact	Name: Jack and Jenny Jones	
	Postal address: 20 Glen Road Sunnyside SA 5555	Phone: (08) 7234 5678
		Mobile: 0427 777 777
	Email: jjjones@bigpond.com	

Landscape Board region[1]	Murraylands and Riverland	**Local government area**	Flatplains District Council
IBRA[2] **region**	Murray Darling Depression	**Total SEB area (ha)**	177.50
IBRA sub-region	Goldborough	**SEB points (total, if applicable)**	1,051.48
IBRA association	Valley Plain and Flat Basin		

2.2 Land Parcels

Whole or in part which comprise the SEB Area

Type of Title (CT/CL)	**Volume**	**Folio**	**Parcel ID**	**Hundred**	**Site ID**[3]
CT	5001	427	H100389 S19	Bent	1, 2, 3
CT	5001	427	H100389 S20	Bent	2, 3

[1] Landscape SA region, see https://landscape.sa.gov.au
[2] IBRA = Interim Biogeographic Regionalisation of Australia
[3] Number of Vegetation Association site

2.3 Introduction and SEB Area Description

Background/reason for establishing the SEB Area (e.g. give brief details of clearance application, credit application or grant project)
The "Back Paddock" block is to be managed for the purposes of establishing and assigning SEB credit under Section 25A and 25B of the *Native Vegetation Act 1991*. The related site application number is NVS2022/4004/750.

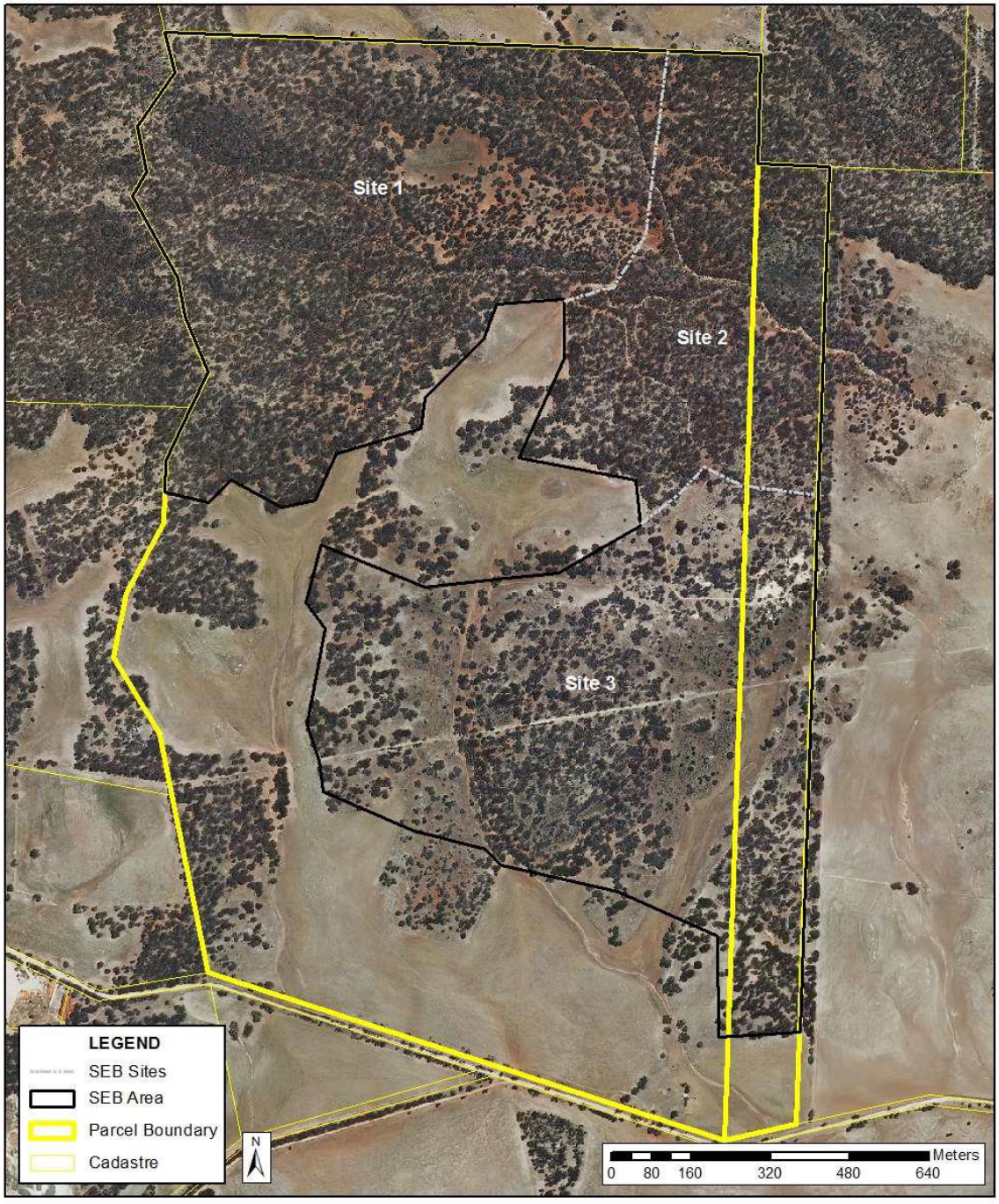
Current and past land use history and events impacting the site/s (e.g. grazing, cropping, previous clearance, known fires; also list any existing covenants, caveats or agreements)
The Sunny Glen property has been used for agricultural proposes for 80 years. This has included cropping of the flat areas which contain the most fertile soil, including a small area within Site 3. Grazing with stock, predominantly sheep, has occurred across the property since the site was first developed. The grazing has resulted in some areas being denuded of native vegetation. Lower stocking rates in recent years have allowed for the re-establishment of native vegetation in some areas. There are no existing management obligations in relation to the native vegetation and no encumbrances or easements on the Certificate of Title.

General description of the features within the SEB Area (e.g. wetlands/creeks, soils, aspect, topography and rainfall)
The north-west area described as Site 1 has relatively steep slopes and shallow rocky soils. It has the furthest distance to a water source and experienced the lowest levels of grazing in the past. The area to the north-east (Site 2) has gentler rolling hills, shallow sandy soils with the occasional rocky outcrop. The flats and valleys generally contain heavier, more fertile, soils. It is these areas that support *Eucalyptus porosa* (Mallee Box) open woodlands and have been preferentially cleared for cropping and more heavily impacted by grazing (Site 3). The area is intersected by a number of ephemeral creek lines. Average annual rainfall is 350 mm.

Summary of the conservation significance of the SEB Area
This is a substantial area of vegetation that is well connected to adjoining areas of native vegetation. The IBRA association has less than 10% remnancy, and protection of this vegetation is a high priority for the region. The remnant vegetation is in medium to good condition and provides a range of habitats. The site contains two Nationally-listed threatened plant species (Spiller's Wattle and Silver Daisy-bush) and three fauna species which are rare in SA (Brush-tailed Possum, White-winged Chough and Hooded Robin). Restoration of a previously cleared area will increase the extent of native vegetation. Spiller's Wattle (*Acacia spilleriana*) will be included in the revegetation program to improve the viability of the local population of this threatened species.

2.4 SEB Area Map

This map delineates the SEB Area/s, vegetation associations (sites) and the land parcels in which the area is located.



3 BIODIVERSITY

3.1 Native Vegetation Associations

The SEB Area is a total of **177.5 ha** and provides a total of **1051.48 SEB points** as outlined in the following tables. SEB points are calculated from a vegetation assessment undertaken on 19 October 2021 by R. Good, EcoFriendly Consultants. A plant species list is given in Appendix 1.

Site Number	Vegetation Association	Area (ha)	SEB points
1	***Eucalyptus socialis* / *Eucalyptus gracilis* mallee**	**69.7**	**550.63**

General description

The vegetation is predominantly in good condition with only moderate grazing impacts due to the steep and rocky terrain and distance from water.

There is a high diversity of native plants and only minor and localised weed infestations, e.g. *Lycium ferocissimum* (African Boxthorn) and *Marrubium vulgare* (Horehound).

Some areas have been impacted heavily by past woodcutting activities and trees are still recovering, with few hollows present.

Site Number	*Vegetation Association*	Area (ha)	SEB points
2	***Eucalyptus socialis* / *E. gracilis* open mallee**	**35.9**	**251.3**

General description

The vegetation is predominantly in good condition with moderate grazing impacts.

Some patches of heavier soils have been grazed more heavily and have reduced understorey cover.

There is a moderate diversity of native plants and only minor and localised weed infestations.

Site Number	*Vegetation Association*	Area (ha)	SEB points
3	***Eucalyptus porosa* (Mallee Box) very open mallee**	**71.9**	**249.55**

General description

The vegetation has been heavily impacted by past grazing and woodcutting activities and has greatly reduced diversity of native plants.

Reduced grazing levels in recent years has resulted in some understory regeneration. Some areas of better soils have been subject to past clearance and cropping and are largely denuded of native vegetation.

Plant species diversity ranges from low to moderate with widespread cover of introduced annual plants such as *Carrichtera annua* (Wards Weed) and *Avena barbata* (Wild Oats). Scattered *Lycium ferocissimum* (African Boxthorn) are present.

3.2 Threatened Flora, Fauna and Vegetation Associations[4]

Flora Species	Common Name	Site/s	Conservation status		
			AUS	SA	Region
Acacia spilleriana	Spiller's Wattle	1, 2, 3	V	V	K
Acrotriche patulata	Prickly Ground-berry	1, 2, 3			R
Correa glabra	Rock Correa	1			R
Dodonaea stenozyga	Desert Hop-bush	3			K
Eutaxia diffusa	Large-leaf Eutaxia	1			E
Olearia pannosa ssp. *pannosa*	Silver Daisy-bush	1, 2	V	V	V
Phyllanthus saxosus	Rock Spurge	1, 3			R

Fauna Species	Common Name	Recorded during survey (list site/s)	Suitable habitat[5] (list site/s)	Conservation status		
				AUS	SA	Region
Tichosaurus vulpecula	Brush-tailed Possum		1, 2, 3		R	
Corcorax melanorhamphos	White-winged Chough	1	1, 2, 3		R	
Melanodryas cucullata	Hooded Robin		1, 2, 3		R	

Vegetation Association	Site	Conservation status		
		AUS	SA	Region
NIL				

[4] **AUS =** Australia *EPBC Act 1999*: CR = Critically Endangered, EN = Endangered, VU = Vulnerable;

SA = South Australia *NPW Act 1972:* E = Endangered, V = Vulnerable, R = Rare;

Region (Plants): E=Endangered, T=Threatened, V=Vulnerable, R=Rare, K=status uncertain, but considered likely to be either rare, vulnerable or endangered, U=Uncommon, Q=Not yet assessed but flagged as being of possible significance, N=Common; **Region (Fauna):** RE = Regionally Extinct, CR = Critically Endangered, EN = Endangered, VU = Vulnerable, RA = Rare, NT = Near Threatened, LC = Least Concern, DD = Data Deficient, NE = Not Evaluated

[5] Not recorded during latest survey but has been recorded previously at the site or within 5 km (e.g. BDBSA or Atlas of Living Australia record) and the site is deemed suitable habitat

4 MANAGEMENT ISSUES AND ACTIONS

4.1 Minimum Management Obligations

The SEB Area is dedicated to the conservation of native vegetation and native fauna on the land in perpetuity and, subject to this Plan, shall not be used in a manner inconsistent with that dedication.

The landholder must not undertake, or permit to occur, any activity that is likely to damage, injure or endanger the native vegetation or native fauna on the SEB Area (except as provided for within this Management Plan, or where approved by the NVC).

In particular, the Landowner shall not, without the written consent of the Native Vegetation Council, undertake or permit on the SEB Area (except as may be provided for within this Management Plan):

- the clearance of native vegetation;
- the planting of exotic vegetation;
- the construction of a building or other structure;
- fertiliser application or artificial feeding;
- cropping or soil disturbance;
- dumping of rubbish, unwanted machinery or plant material;
- new dams or drainage alterations;
- removal of rocks;
- removal of standing or fallen timber;
- vehicle access beyond that which is required to manage and monitor the biodiversity value of the site or for aboriginal cultural purposes;
- any other activity that, in the opinion of the NVC, is likely to damage, injure or endanger the native vegetation or habitat of native fauna on the SEB Area.

Grazing

Stock are to be excluded from the SEB Area at all times with the exception of any ecologically-beneficial grazing strategy identified within this Plan and approved by the NVC.

Fencing

All fencing used to exclude stock must be maintained in stock-proof condition. Boundaries need to be monitored for stock access. If stock are able to access the area at any time in a manner not approved by this plan, the fence will need to be upgraded or repaired as applicable.

Controlling pests

The Landowner is responsible for the control and, if possible, eradication of declared plant and animal pests pursuant to section 192 (1) of the *Landscape South Australia Act 2019.* All methods used must minimise off-target damage, minimise soil disturbance and comply with the *Native Vegetation Act 1991* and the *Landscape South Australia Act 2019.* Monitoring should aim to detect any new weeds or pests and management action taken to prevent these from becoming established.

Overabundant native animals

If control of a native species is required due to negative impacts (e.g. excessive kangaroo grazing), it must be conducted under permit from the SA Department for Environment and Water where applicable.

Fire prevention

The Landowner will take all reasonable steps to prevent fire on their land, provided these steps are not inconsistent with their commitments under this Plan. All works must be compliant with the *Native Vegetation Act 1991* and the *Landscape SA Act 2019*.

4.2 Threats - Weeds and Pest Animals

Weed and feral animal species present that pose high threat to the flora/fauna[6]

Weed species	Common name	Declared (Y/N)	BCM[7] threat rating	Site/s
Lycium ferocissimum	African Boxthorn	Y	4	1, 3
Marrubium vulgare	Horehound	Y	3	1

Pest animal species (declared)	Common name	Recorded on site/s (Y/N)	Likely to occur at site/s (Y)	Site/s
Oryctolagus cuniculus	Rabbit	Y		1, 2, 3
Vulpes vulpes	Fox	Y		1, 2, 3
Dama dama	Deer		Y	1, 2, 3
Capra hircus	Goat	Y		1, 2, 3

[6] A weed or pest is considered a management issue if it is Declared under the *Landscapes SA Act 2019* or if the weed has a Bushland Condition Monitoring Weed Threat Rating of 3, 4 or 5 for the region in which it is located

[7] Bushland Condition Monitoring Manual for SA Murray Darling Basin

4.3 Other Threats and Issues Impacting the SEB Area

Threat or Issue	Description of sites / species affected and the severity of impact (where known)
Inappropriate total grazing pressure (e.g. stock access, feral grazers and/or kangaroos)	The site is currently grazed predominantly by sheep, rabbits and kangaroos (especially in dry years) but there are also minor impacts from goats and deer. Areas in Site 2 with heavy soils and Site 3 have the worst impacts; little or no regeneration of native plants is occurring where the level of grazing is high.
Artificial water source(s)	Stock trough in Site 3
Areas with lack of native vegetation due to past disturbance	Site 3 has open areas that have resulted from previous clearance and cropping.
Changed hydrology, salinity, acidity or waterlogging	NA
Inappropriate fire regime	The site has not been burnt for at least 40 years. The condition of this type of mallee vegetation may respond positively to fire. At 5-8 years after stock are removed the site should be assessed by a fire ecologist for adequate regeneration in the absence of fire, then potentially an ecological prescribed mosaic burning program may be considered by the NVC if deemed appropriate and beneficial.
Damage from public access (e.g. use of bike trails, off-road vehicles, rubbish dumping, pollution)	NA
Disease (e.g. *Phytophthora*)	NA
Other:	NA

4.4 Management Goals and Objectives

- The goal(s) below outline the intent / desired outcome(s) of managing the SEB Area over the long term.
- The management objectives are the strategies that must be undertaken in the first 10 years to address threats/issues and progress towards achieving the overall goal.
- The targets and indicators of success clarify what is expected to be achieved and/or observable at the site with 10 years of site management.
- Specific actions, methods and monitoring are detailed in later sections.

Goal 1: Improve the condition of degraded remnant native vegetation from 'medium' to 'good' and maintain that condition thereafter
Management objectives: • Improve plant health and regeneration by reducing total grazing pressure to a level that causes minimal impact • Reduce competition from high threat weeds • Assess requirement for fire to assist regeneration/diversity in mallee vegetation
Targets / Indicators of success: • Bushland assessments at Year 5 and 10 show improved vegetation condition scores due to reduced weed cover, higher native plant cover/biomass and regeneration • Vegetation condition scores at Sites 1 and 2 average 65 or above at Year 10; scores in Site 3 improve by at least 10% by Year 5 and 15% by Year 10

Goal 2: Increase plant species diversity and re-establish a viable population of the Nationally Vulnerable *Acacia spilleriana* (Spiller's Wattle) in previously cleared areas
Management objective: • Reconstruct a *Eucalyptus porosa* open mallee vegetation community including at least 100 new *A. spilleriana* plants at Site 3 • Reduce competition from weeds
Targets / Indicators of success: • Site 3 consists of an open mallee community with around 10-30% native tree cover and 20-30% shrub cover across at least 75% of the revegetated area at Year 10 • At least 70% of species planted are persisting at Year 5 and 10; at least 80% of the *Acacia spilleriana* individuals are healthy at Year 5, with regeneration occurring by Year 10 • The cover of high-threat weeds is <1% at Year 10

Goal 3: Protect native fauna from feral animal predation at all sites
Management objectives: • Reduce feral predator populations (foxes, cats) through active control
Targets / Indicators of success: • Observations in Years 6-10 show a decrease in numbers compared to Years 1-5 (noting that environmental and landscape factors may affect incoming numbers)

4.5 Revegetation Plan

Unless otherwise agreed by the NVC, any revegetation must:

- be with species indigenous to the local area;
- use seed or plant material collected from as close as possible to the planting site;
- aim to be representative of the structure and composition of the relevant pre-European vegetation benchmark community.

Reveg Site ID	**Area of reveg** (ha)	**Description of the key structure and composition of the relevant pre-European vegetation benchmark community** (e.g. type of vegetation that should be achieved in the longer term; open / dense / clumped distribution of trees, shrubs or groundcovers)
3	2.5	Recreate a *Eucalyptus porosa* (Mallee Box) open woodland (~10-30% tree cover) with shrubby understorey (20-30% cover): Canopy – 20-30 m spacing between large trees Sub-canopy – 15-20 m spacing between smaller trees / taller shrubs Shrubs – 2-4 m spacing in clusters, some open patches Ground layer – clusters of small shrubs, mat plants, grasses, lilies and herbs, with individuals at 0.5 to 1 m spacing within patches

Reveg Site ID: Site 3

Management Action	**Methods**	**Timing**
Initial weed control	Spray ground cover weeds, particularly grassy and broadleaf weeds, in areas to be revegetated. This is to conserve soil moisture, reduce the weed seed bank and prepare the soil for ease of planting.	Winter/spring in the year prior to planting If summer weeds present, spray in summer also Spray again to control new weed seedlings one month prior to planting
Initial pest control	Check for rabbits and control using 1080 baits	Summer prior to planting
Seed collection / purchase	Consult www.saseedbank.com.au for info on seed collection or engage professional contractor as soon as possible	Start early, in the year prior to the year of planting; collect seeds to enable propagation by late spring/summer
Seedling propagation / purchase	Engage contractor/nursery to grow tubestock (especially for species that have limited seed supply or are delicate ground layer species)	Propagation to start 6-9 months prior to planting
Ground /soil preparation	None required	NA

Management Action	Methods	Timing
Plant establishment (tubestock)	Plan tubestock species (noted in species table). Water in if needed. Erect tree guards around tubestock; tag *Acacia spilleriana*, record number planted	Winter/early spring (after adequate rainfall and weed control) and within 24 months of commencement of this plan
Plant establishment (direct seeding)	Hand direct-seed hardy species for which there is plentiful seed (see following Table for species suited to this method)	Late winter to early spring (after adequate rainfall and weed control) and within 24 months of commencement of this plan
Aftercare	The ground layer will require active monitoring and management to ensure seedling survival. Control pests (e.g. spray red-legged earth mite and bait any grasshoppers, snails, rabbits and other grazers). Control weeds around seedlings (e.g. by hand pulling, spot spraying, shielded spraying or slashing). Water if dry. Remove guards once plants are established enough to withstand threats.	Begin straight after planting, then ongoing until plants are established
Supplementary replanting	Monitor site for losses. Begin revegetation process again to add additional species or replace losses where required.	Monitor each year for two years following initial planting; begin fil in plantings 2-3 years after initial planting

Species suitable for revegetation

Method - T = Tubestock, M = Machine Direct Seed, H = Hand Direct Seed (if seed plentiful)

Botanical Name	Common Name	Method	Target Density (/ha)	Planting Notes
CANOPY				
Eucalyptus porosa	Mallee Box	T/H	75	
Eucalyptus socialis	Beaked Red Mallee	T/H	35	
SUBCANOPY				
Acacia pycnantha	Golden Wattle	H	100	
Melaleuca lanceolata	Dryland Tea Tree	H	50	Use seed sparingly
Myoporum platycarpum	False Sandalwood	T	50	
Pittosporum angustifolium	Native Apricot	T	20	
SHRUBS				
Acacia acinacea	Round–leaf Wattle	T/H	200	
Acacia calamifolia	Wallowa	H	100	
Acacia spilleriana	Spiller's Wattle	T	125	Tag and record no. planted
Bursaria spinosa ssp. *spinosa*	Sweet Bursaria	T	200	
Enchylaena tomentosa var. *tomentosa*	Ruby Saltbush	T/H	250	
Goodenia varia	Sticky Goodenia	T	100	Plant in clumps
Hardenbergia violacea	Native Lilac	T/H	50	
Olearia muelleri	Mueller's Daisy-bush	T/H	100	
Olearia pimeleoides	Pimelea Daisy-bush	T/H	100	
Pimelea serpyllifolia	Thyme Riceflower	T	50	
Pomaderris paniculosa	Mallee Pomaderris	T	100	
Rhagodia parabolica	Mealy Saltbush	T	200	
Senna artemisioides	Silver Cassia	T/H	200	
GROUND LAYER				
Rytidosperma setaceum	Bristly Wallaby-grass	H	200	Seed in patches
Austrostipa exilis	Heath Spear-grass	H	200	Seed in patches
Dianella revoluta var. *revoluta*	Black-anther Flax-lily	T	100	Plant in clumps
Gahnia lanigera	Black Grass Saw-sedge	T	50	Plant in clumps
Goodenia albiflora	White Goodenia	T	100	Plant in clumps
Helichrysum leucopsidium	Satin Everlasting	T	50	Plant in clumps
Vittadinia gracilis	Woolly New Holland Daisy	T	50	Plant in clumps

4.6 Risk Management and Contingencies

This section identifies the major risks that have a potential to threaten the successful implementation of the Management Plan or the associated on-ground outcomes, the likelihood of such an event occurring (High, Medium and Low) and steps that will be taken to mitigate or address these risks.

Relevant mitigating actions identified here are included in the Action Table

Risk	Likelihood	Mitigating measures or contingency
Seed supply not enough for target number of plants	Medium	Consult early with seed collection contractor. Revegetation may need to be carried out in stages over several years. Advise NVC in reporting.
Revegetation failure	Medium	Ensure thorough weed and pest control at all stages. Plant only when adequate soil moisture is present. Water afterwards (e.g. with aid of a water truck) for first year where possible. Additional planting will be conducted to account for any significant losses.
Stock accessing site - due to the shallow soils, rocky and undulating ground and numerous creeks in the northern portion of the property, fence maintenance is difficult and may be subject to damage and stock intrusion	Medium	Inspections of the fence will be undertaken by foot at least twice a year and after any detection of stock or evidence of their presence within the SEB area.

4.7 Action Table

This table lists the 10-year management objectives, associated actions and resources required to achieve the Management Goals. Detailed methods are included in the appendices. Costs are GST exclusive.

10-year Management Objective	Management Action	Methods	Approx. cost ($)	Timing
Improve plant health and regeneration by reducing total grazing pressure to level that causes minimal impact	Construct and maintain fencing to exclude stock	Construct a 4.18 km fence to a sufficient standard to permanently exclude stock. The Landowner will ensure a fence and gate(s) to the SEB Area are erected in the location delineated in Map 4.8 Fencing should be erected at least 5 m away from existing vegetation to provide for fence maintenance access and firebreak. Once the fence and gates are erected, the Landowner will maintain the fence and gates in a stock proof condition at all times.	x	To be completed within 6 months of the commencement of this plan
	Close artificial watering point	Remove stock trough and pipes	x	To be completed within 12 months of the commencement of this plan
	Reduce and control the number of rabbits	Undertake an integrated rabbit control program. Bait with either 1080 or Pindone poison bait. The best results are obtained if three free feeds (oats with no poison) are laid prior to baiting, with a three or four day interval between each feed. Baits should be laid within the rabbit feeding areas. Laying the baits on disturbed soil (ripped or scratched with a mattock or similar) is usually recommended to attract the rabbits. Follow up baiting with warren ripping and fumigation of those burrows that reopen or are hard to reach with the tractor and ripping tine. Start warren destruction as soon as practical after poisoning. Contact the local Landscape Board to seek advice /	x	Late summer or autumn is the best time to bait rabbits, as at this time alternative food is scare and rabbit numbers are low. Warren or den destruction should be undertaken in conjunction with baiting programs where possible. The best time to fumigate is after the opening rains, when the soil is less porous.

10-year Management Objective	Management Action	Methods	Approx. cost ($)	Timing
		purchase baits.		
	Control goats and deer	Goats and deer are generally in low numbers and only observed sporadically at this site. Shoot animals when observed (shooting should only occur if it is safe to do so and if undertaken by a suitably licenced and qualified operator). If numbers increase, seek advice from the local Landscape Board to plan and implement other control options such as trapping, mustering or a Judas goat program.	x	At any time these are detected by monitoring.
	Monitor impact of kangaroos and reduce numbers if damage to plants is significant	Conduct spotlight surveys to determine population size and trends. If stock have been excluded and other grazers controlled, kangaroos may still impact on native plant health. If grazing impacts become significant and surveys indicate numbers are high, obtain advice and if necessary, a destruction permit from DEW. Any control activities must be undertaken as stipulated by the destruction permit.	x	At any time that grazing is deemed to be too detrimental and DEW advice confirms control is required.
Reduce competition from high threat weeds	Site 1 - eradicate African Boxthorn Site 3 – control African Boxthorn (reduce by at least 70% of its current cover extent)	Wear safety glasses and gloves when working on this weed as it has thorns. Remove isolated plants first. Hand-pull or dig out seedlings and small plants in winter or spring, removing the entire root. Spot spray when plants have good foliage cover. Spot spray is most effective on seedlings, plants under 2m and fresh regrowth. For mature plants, cut as close as possible to the ground and paint the base with herbicide or drill and fill. Apply when there is good foliage cover. Follow-up treatment may be required.	x	Dig out or hand-pull when soil is moist (winter to spring). Apply herbicide when plants have good foliage cover and are actively growing (spring).
	Site 1 - eradicate Horehound	Hand-pull or dig out small plants and seedlings before flowering. For dense patches, spot spray or cut and paint with herbicide before flowering.	x	Hand-pull or dig out when soil is moist. Apply herbicide when plants are actively growing (autumn), before flowering.

10-year Management Objective	Management Action	Methods	Approx. cost ($)	Timing
	Monitor and control any new high threat weeds (all sites)	Search site for new weeds. If observed, refer to Appendix 2 for a range of possible weed control methods or seek advice if required and subsequently plan and implement a control program based on greatest threats.	x	Search once per season for first 5 years then annually.
Reconstruct a diverse *Eucalyptus porosa* open mallee vegetation community with mid-dense shrubby understorey, including 100 *A. spilleriana*	Revegetate 2.5 ha within Site 3, including initial establishment of 125 *A. spilleriana*	Refer to Map 3.3 for areas to be revegetated, methods as per the Revegetation Plan – engage specialist contractors in Year 1 for advice and to carry out timely seed collection and seedling propagation etc.	x	Initial planting within 3 years of commencement of the management plan; losses replaced or supplementary planting within a further 3 years
Reduce feral predator populations	Reduce the population of foxes	Contact the local Landscape Board to seek advice to plan and implement a 1080 baiting control program for foxes. Best results are achieved by being involved in a region fox control program. Burying about 4-6 baits per 100 ha, in locations known to be used by foxes (e.g. vehicle or animal tracks) is recommended. Bait sites must be marked and checked regularly to monitor bait take. The fumigation of dens may also be considered as a control option.	x	Fox baiting in spring can be used to target foxes during their reproductive stage, when females require more food to sustain their young. Fox baiting in autumn targets young foxes from the previous spring as they disperse in search of new territory.
	Monitor the area for cats and control if found present	Consider shooting or capturing cats in cage traps. (Note baiting for cats has limited success and success depends on low availability of prey). If traps are used, traps must be checked daily and the animal must be disposed of humanely. If there are any indications that the animal may be a pet, contact the local Council for advice.		Monitor at least once per season; control as required
Monitor results	Refer to Monitoring section	Refer to Monitoring section	x	Annually in October
TOTAL COST ($)			**XX**	

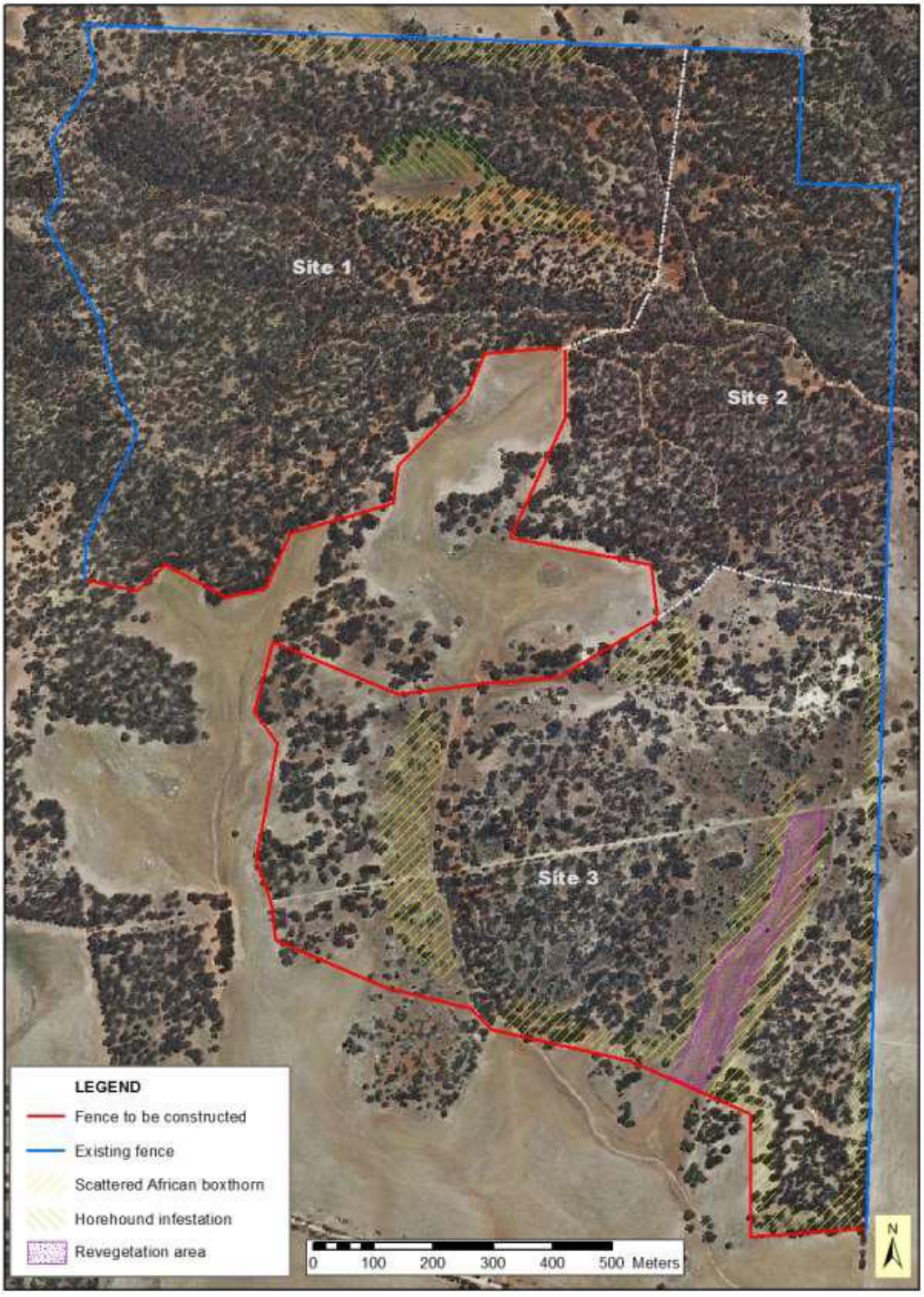
4.8 Works Calendar Summary

Year(s) that each management action is to be carried out in order to achieve the 10-year Management Objectives, plus any monitoring and reporting required.

Action Item	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Erect new fence	X									
Remove stock trough and pipes	X									
Rabbit control	X	X	X	X	X	X	X	X	X	X
Control goats and deer	X	X	X	X	X	X	X	X	X	X
Kangaroo spotlight surveys	X	X	X	X	X	X	X	X	X	X
African Boxthorn and Horehound control	X	X	X	X	X	X	X	X	X	X
Monitor / control new weeds/pests	X	X	X	X	X	X	X	X	X	X
Engage revegetation contractors (seed/tubestock)	X									
Initial weed control Site 3 reveg area	X	X								
Plant Site 3		X	X							
Site 3 aftercare and supplementary planting (if needed)		X	X	X	X	X				
Fox/cat control	X	X	X	X	X	X	X	X	X	X
Standard monitoring	X	X	X	X	X	X	X	X	X	X
Bushland Condition Monitoring					X					X
Reporting to NVC	X	X	X	X	X	X	X	X	X	X

4.9 Management Action Map

This map shows the locations of key management issues.



5 MONITORING AND REPORTING

5.1 Standard Monitoring

Observing, documenting and analysing the outcomes of management actions are required. Information must be provided to the NVC in an annual progress report. If monitoring shows that the goals of this Plan are not being achieved, the Landowner or the NVC may request a review and update of the Plan. The following standard monitoring data are required as part of the progress report:

- Record of management actions undertaken
- Photographs from at least one representative photographic monitoring site or 'photo-point' for each vegetation association (i.e. each 'site')
- A map and/or list showing the location of each photo-point and the photo direction
- Annual photographs showing the same field of view as the first (baseline) photograph at each photo-point.
- Record of dominant species and species of interest occurring in the photographs with notes of key changes compared to the baseline.
- Record of seasonal conditions (e.g. rainfall) to assist with evaluating changes (if available).

5.2 Additional Monitoring

As the number of SEB points generated is >150 points additional assessments will be undertaken by an accredited assessor at years 5 and 10 of the Management Plan. The method used will be the NVC's Bushland Assessment Method.

5.3 Complimentary Monitoring

The following sections outline tailored monitoring goals and methods that will be used to guide management and document outcomes for the revegetation activities.

Monitoring goal/s (e.g. what questions will be answered by monitoring the site?)
Monitoring Goal 1: Is the revegetation at Site 3 likely to mature into a *Eucalyptus porosa* open woodland community with the desired structure and diversity? Monitoring Goal 2: Are the revegetated *Acacia spilleriana* (Spiller's Wattle) surviving and healthy?

Complimentary monitoring - ecological indicators

Monitoring goal no.	Ecological indicators (what is to be measured/observed)	Methods (how measurements/observations will be carried out and recorded)
1	Vegetation Condition Score	Carry out NVC Bushland Assessment Method (July 2019) at two locations within the revegetated area in Sept of Year 5 and Year 10.
2	Survival of *Acacia spilleriana* (%)	Count tagged plants surviving in September of Year 5 and 10. Keep records with standard monitoring / progress report information.

Complimentary monitoring - evaluation

Ecological indicator	Timing	**Target** (e.g. expected/desired state when monitored, possibly in comparison to a baseline, benchmark or control)
Vegetation Condition Score	Year 5, Spring	Vegetation condition score 30-40 (poor to medium) with native plant life forms score of at least 12 and total 'weed cover x threat' rating <7. The revegetation will be immature, but if these scores are not met then management may need to look causes (e.g. may need to intensify weed/pest control and replace any seedling losses with further planting).
	Year 10, Spring	All components of the vegetation condition score should have increased compared to Year 5, except 'weed cover x threat' rating which should have either not changed or decreased. Target vegetation condition score at Year 10 is 50. If this score is not met then an analysis of the individual elements that make up the score will show what requires further management.
Survival of *Acacia spilleriana* (%)	Year 5, Spring	At least 80% survival at Year 5. If this target is not met then further planting may be necessary, with attention to controlling weeds and pests to minimise losses.
	Year 10, Spring	As Acacia plants are relatively short-lived there may be signs of dying off at Year 10, however if the population is sustainable there may be regeneration present. If the population is declining without replacement, check for causes (e.g. weed competition, grazing, lack of seed set, low rainfall etc) and give attention to those factors which can be managed (e.g. reduce weeds and grazers).

Complimentary monitoring - roles and responsibilities

Monitoring action	Timing	Person(s) / organisation(s) responsible
Bushland Assessment	Years 5 and 10 in September	Landowner to engage accredited consultant
Acacia spilleriana survival	Years 5 and 10 in September	Can be incorporated into the Bushland Assessment by accredited consultant or done by site manager
Review and, if required, update Management Plan	Years 5 and 10	Landowner and site manager, with approval from NVC

5.4 Reporting and Review

Annual Progress Reports will be submitted to the NVC by 31st July for the first 10 years of management. Reports should be submitted on the NVC's progress report template and are to include:

- a description of works undertaken for the previous year for each Management Goal
- standard monitoring data and photos as outlined in Section 5.1, including an evaluation of outcomes
- relevant complimentary monitoring data and evaluation (if required under Section 5.3).

Year 5 and 10 assessment reports (if required under Section 5.2) will be submitted to the NVC and include:

- an evaluation of the condition of the vegetation compared to the baseline/benchmark including photographs and monitoring data
- a review of whether management actions have achieved the management objectives to the extent expected
- suggested changes to this Management Plan (if required)

Type of report	Due date	Person(s) / organisation responsible
Annual Progress Report	31st July annually	Landowner
Year 5 Assessment	Nov 2027	Accredited Consultant engaged by Landowner
Year 10 Assessment	Nov 2032	Accredited Consultant engaged by Landowner

6 EXECUTION OF THE PLAN

SEB Area Reference Name: Back Paddock Block
Application Number: NVS2022/4004/750

APPROVAL OF THE NATIVE VEGETATION COUNCIL

Signed: E. Jones..... Date: 21/01/2020

Print Name: E. Jones……

Position Title: Principal Advisor
DELEGATE TO NATIVE VEGETATION COUNCIL

APPROVAL OF THE LANDOWNER(S)

Signature of Landowner(s) or seal of Company and authorised signatory:

Signed: J. S. Blow Date: 17/01/2020.....

Print Name: J. S. Blow……

Signed: ..... Dated: .....

Print Name: ……

APPENDIX 1: PLANT SPECIES LIST

The following plant species were found at the site/s on 11/10/2019 by R. Goode

Species name	Common Name	Weed (*)	Site/s
Acacia acinacea	Round–leaf Wattle		1, 2
Acacia calamifolia	Wallowa		1, 2
Acacia pycnantha	Golden Wattle		1, 2, 3
Acacia spilleriana	Spiller's Wattle		1, 2
Acrotriche patulata	Prickly Ground-berry		1, 2
Austrostipa exilis	Heath Spear-grass		1,
*Avena barbata**	Wild Oat	*	3
Bursaria spinosa ssp. *spinosa*	Sweet Bursaria		1, 2
Carrichtera annua	Ward's Weed	*	2, 3
Correa glabra	Rock Correa		1
Dianella revoluta var. *revoluta*	Black-anther Flax-lily		1
Dodonaea stenozyga	Desert Hop-bush		1, 2
Enchylaena tomentosa var. *tomentosa*	Ruby Saltbush		1, 2, 3
Eucalyptus porosa	Mallee Box		1, 2, 3
Eucalyptus socialis	Beaked Red Mallee		1
Eutaxia diffusa	Large-leaf Eutaxia		1, 2
Gahnia lanigera	Black Grass Saw-sedge		1, 2, 3
Goodenia albiflora	White Goodenia		1
Goodenia varia	Sticky Goodenia		1
Hardenbergia violacea	Native Lilac		1, 2
Helichrysum leucopsidium	Satin Everlasting		1, 2
*Lycium ferocissimum**	African Boxthorn	*	1, 2, 3
*Marrubium vulgare**	Horehound	*	1, 2
Melaleuca lanceolata	Dryland Tea Tree		1, 2
Myoporum platycarpum	False Sandalwood		1, 2
Olearia muelleri	Mueller's Daisy-bush		2
Olearia pannosa ssp. *pannosa*	Silver Daisy-bush		1
Olearia pimeleoides	Pimelea Daisy-bush		1, 2
Phyllanthus saxosus	Rock Spurge		1, 2
Pimelea serpyllifolia	Thyme Riceflower		1, 2
Pittosporum angustifolium	Native Apricot		1, 2
Pomaderris paniculosa	Mallee Pomaderris		1
Rhagodia parabolica	Mealy Saltbush		1, 2
Rytidosperma setaceum	Bristly Wallaby-grass		1
Senna artemisioides	Silver Cassia		1

APPENDIX 2: WEED CONTROL INFORMATION

The NVC has adapted this information from a guide produced by departmental Bush Management Advisors. Additional information can be found Robertson, M., Grant, I. and Cragie, A. (2005) *Stop Bushland Weeds: A Guide to Successful Weeding in South Australian Bushland,* Nature Conservation Society of SA and in the '*Weed Control Handbook for Declared Plants in South Australia*' (Biosecurity SA, PIRSA): https://www.pir.sa.gov.au/__data/assets/pdf_file/0020/232382/WEB_8867_PIRSA_Weed_Control_Handbook_2018.pdf

For tailored local advice, contact the local natural resources management office: https://landscape.sa.gov.au/

Key principles

- Weed control is a long-term project. Numerous follow-up treatments will be required before weeds are fully eradicated.
- To promote the replacement of weeds by native plants, start weed control work along the edges of the best native vegetation and work in stages towards the more degraded areas. The exception may be if isolated occurrences of newly invading weed species occur, to eradicate them before they spreads.
- Minimise disturbance to existing native plants and to the soil as weeds are often favoured in disturbed areas.
- Where native animals are using the weed infestations as habitat remove those weeds slowly so that the habitat can be replaced by native species.
- Consider slope stability and the risk of soil erosion if weeds are removed.
- If dead weeds are left standing, particularly for dense prickly infestations, consider how you will manage access for follow up work.

Herbicides

If using herbicides it is recommended that you complete a basic Chemical Handling training session first to keep yourself, other people and your property safe. Follow these key principles:

- Always read and follow the label on the herbicide container. It is a legal requirement that you act in accordance with the instructions and information on the label, or in some cases, in accordance with an Off-label Permit for that herbicide as issued by the Australian Pesticide and Veterinary Medicines Authority. Material Safety Data Sheets can provide further safety information.
- Weeds are usually best treated when they are actively growing, but check label information for most effecting timing.
- Always use the recommended safety equipment/clothing and have water available for washing should there be any herbicide contact with your skin.
- Only mix up the amount of herbicide that you will use in each weeding session.

The following tables outline commonly used control methods.

Hand Pull Soft annual weeds and seedlings of woody weeds	Tools and Equipment:	Gloves
	Safety Equipment:	None
	Firmly grip the stem of the weed near ground level and pull the root out of the ground. Beware of back injury. Care must be taken to minimise soil disturbance by for example putting one foot on the ground on either side of the weed to keep the surrounding soil from lifting up and/or waiting until after rain when the soil is wet so the plant comes up more easily.	

Digging or Grubbing Individual weeds and those with underground storage organs (e.g. bulbs)	Tools and Equipment:	Narrow trowel, small grubbing tool (like a small mattock)
	Safety Equipment:	None
	Dig out the underground part of the weed and remove it from the site. Drawbacks with this method include the amount of soil disturbance which can promote the establishment of other weeds at the site (this can be minimised by replacing the dislodged soil and leaf litter after the weed is removed), and if not all of the underground parts are removed the weed may resprout.	

Cut and Swab Woody weeds	Tools and Equipment:	Cut using secateurs, loppers, a handsaw or chainsaw depending on weed size. Herbicide application using a sponge-topped plastic bottle similar to a shoe polish bottle.
	Safety Equipment :	Safety glasses, strong rubber gloves, water for washing
	Cut the stem(s) close to or at ground level. Keep the applicator sponge clean as contact with the soil may inactivate the herbicide. Apply the herbicide to the cut stump within 30 seconds. Systemic herbicides are used in this method which move to and kill the roots of the weed. **Stem Scrape and Swab:** If the underground parts of the weed are extensive, more herbicide will be needed to kill it. In this case cut the stems higher above the ground and after cutting, scrape off the outer layer (skin) of the remaining part of the stem and apply herbicide to this area as well as to the cut.	

Ringbark Trees that do not resprout (e.g. pines)	Tools and Equipment:	Hatchet, machete, hand saw or chainsaw
	Safety Equipment :	Safety glasses, gloves
	Close to the ground chop out a 2-5cm wide section of the bark and sap wood, exposing the heart wood, to form a cut ring that completely encircles the tree. For pines, no herbicide need be applied. For other treat as per the Cut and Swab information above. Ensure that when the tree dies and eventually falls that it will fall into safe place.	

Wipe On Strap-leaf species such as *Watsonia* in areas where they are surrounded by native plants	Tools and Equipment:	Wick-wand, or 'Tongs of Death' and plastic squeeze bottle with a long narrow tube coming out of the lid
	Safety Equipment :	Safety glasses, strong rubber gloves, water for washing
	The herbicide is applied to the wick-wand or Tongs of Death (kitchen tongs with sponges securely attached), and then the leaves of the weed are wiped. Both sides of the leaf should be coated with herbicide.	

Drill and Fill Larger woody weeds	Tools and Equipment:	Cordless/battery drill with 6mm drill bit. Plastic squeeze bottle with a long narrow tube coming out of the lid.
	Safety Equipment :	Safety glasses, strong rubber gloves, water for washing
	The weed is left standing after the treatment, minimising the control effort required and maximising the habitat value. Clear any low branches away to allow good access to the base of the weed. Clear soil and leaf litter away from the base of the trunk. Drill a series of holes 5 – 10mm deep at a 45^{o} angle (or steeper if possible) into the base of the trunk, or into the lignotuber if it is visible. A lignotuber is a swollen part of the lower trunk which is a type of storage organ. Drill holes 2 - 4cm apart around the base. Fill the holes with herbicide as soon as possible after drilling. Before leaving to start on another plant check the holes and refill them with herbicide. **Frill and Fill variation**: A hatchet or machete is used to make lots of angled cuts 'frills' into the sap layer all around the base of the trunk so that each cut can hold the herbicide. Apply the herbicide as soon as possible after cutting.	

Spot Spray Large infestations and/or where off target damage to native species (eg spray drift) is unlikely	Tools and Equipment:	Hand-held spray bottle, backpack spray unit or vehicle mounted spray unit
	Safety Equipment :	Safety glasses, mask or ventilator, strong rubber gloves, water for washing, other equipment as specified on the herbicide label.
	It is very important to mix the herbicide to the correct dilution for the target weed, as per the label instruction, or in some cases the Off-label Permit instructions. Check on the label to see if a surfactant (also known as a wetting agent) or penetrant is recommended. The weed must be in an active growing stage for the herbicide to work effectively. Ensure a good cover of the herbicide on both sides of the leaves. To minimise off-target damage from spray drift, adjust the nozzle to get droplets of the correct size to cover the leaf (not too small to blow away between the nozzle and the leaf and not too big to dribble off the leaf once it hits), use a shield over the spray nozzle and don't spray on windy days. Don't spray when rain is expected (refer to the label).	