



**Blythe Reserve (Reserve 35773)
Management Plan**

ADOPTED JUNE 2007

Blythe Reserve Management Plan

1.0 INTRODUCTION

Blythe Reserve is a small, urban bush land reserve located in 'Old' Dunsborough. It is triangular in shape, approximately 0.93 ha in size and bounded to the north by Gibney Street, the east by Gifford Road and the south west by Sayers Street. See Appendix 1, Locality Map.

It is currently a class 'C' Reserve, vested in the Shire of Busselton for the purpose of 'Protection of Flora'.

Blythe Reserve is highly valued by members of the community, recognised for its wildflower displays in spring and it is a popular walking destination for surrounding residents. The Reserve contains a Threatened Ecological Community and the conservation significance of the Reserve has recently been recognised with the full registration of the Reserve as 'Land for Wildlife'.

As part of the 'Land for Wildlife' registration of the reserve, a detailed report for the site was prepared focusing on the preservation of the conservation values of the site. In many instances, the information contained within the Land for Wildlife report has formed the basis of this management plan.

The 'Land for Wildlife' report is available from the Shire for more detailed or technical information relating to managing the conservation values of the Reserve.

A group of dedicated volunteers, 'Friends of Blythe Reserve' has been managing the Reserve in conjunction with the Shire since 2001 and the purpose of this management plan is to guide these works and the long term management of the site to ensure that the conservation significance of the site is maintained and enhanced.

The Reserve contains a concrete and rock lined creek/drainage line flowing from the north-western corner of the site to the south-eastern corner.

Flora

The Reserve is generally well vegetated. The site essentially contains two vegetation types:

1. Paperbark (*Melaleuca raphiophylla*) and WA Peppermint riparian vegetation along the heavily degraded creekline/drainage line running along the south western boundary and southern corner of the Reserve;
2. Marri (*Corymbia calophylla*) woodland on calcareous sands over the remainder of the site.

Following the Land for Wildlife assessment of the Reserve it was identified that the Marri Woodland in the Reserve represents a Threatened Ecological Community Type 3B - *Marri Open Forest consisting of Eucalyptus calophylla and Eucalyptus marginata woodlands over calcareous sands*. The dominant vegetation is Marri, WA Peppermint and WA Christmas Tree over a shrub layer consisting predominantly of Prickly Moses, Rose Banjine, Zamia Palm, Grasstree/ Balga and *Jacksonia furcellata*. Yellow Buttercups, False Boronia and *Adenanthos meisneri*

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are common ground layer plants through the area. A more detailed species list for the site is attached as Appendix 2.

The Priority 3 (P3) species *Acacia lateriticola* glabrous variant has been recorded on the Reserve. It should be noted that although the TEC description lists Jarrah as being present, this is not actually the case. No Jarrah is present in the reserve.

Using the Keighery (1994) rating system, the Marri Woodland portion of the Reserve is classified as being in 'good' condition. This community currently contains a number of disturbed areas due to a proliferation of informal walking tracks through the reserve and also experiences some tree decline and minor weed invasion. The creekline portion of the site dominated by Paperbark riparian vegetation is classified as 'Fair to Degraded'. This classification is largely attributable to the concrete and rock lining of the banks of the creekline and the weed invasion (primarily Kikuyu) around the north western corner of the Reserve.

Fauna

A detailed fauna assessment was not undertaken during the preparation of this management plan, however, the reserve is likely to provide habitat to a range of mammal, bird, reptile and amphibian fauna species. Of particular note is the potential habitat for the threatened Western Ringtail Possum (WRP) and the priority fauna species the Southern Brown Bandicoot or Quenda.

The Western Ringtail Possum was once widely distributed throughout the southwest of Western Australia, but is now restricted to isolated coastal areas between Albany and Bunbury, mainly concentrated in areas of peppermint forest (*Agonis flexuosa*). Ringtail possums are listed as Vulnerable under the 2006 IUCN Red List of Threatened Species; Threatened under the WA Wildlife Conservation Act (1950); and Threatened (Vulnerable) under the Federal Environment Protection and Biodiversity Conservation Act (1999). Factors contributing to the decline of the species have been loss of habitat through land clearing, predation from foxes, and urban development impacts.

Weeds

A number of weeds are present within the Reserve. Priority weeds for control include, Watsonia, Kikuyu, Veldt Grass, Sydney Golden Wattle and Love Grass. These species represent a significant threat to the long term conservation value of the Reserve and strategic and effective weed control represents a key element of the management of the reserve.

The Friends of Blythe Reserve have undertaken a number of weed surveys and have previously undertaken control of a number of species. Concern from some members of the surrounding community has been raised in the past with regard to the use of herbicides in the Reserve.

Dieback

A small area of the Reserve is experiencing tree decline. Testing for *Phytophthora cinnamomi* dieback occurred in 2005 as part of the Land for Wildlife registration process and that testing did not detect the presence of Phytophthora dieback within the Reserve. Additionally a DEC dieback interpreter undertook an

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assessment of the Reserve in March 2006 that suggested that Dieback, if evident, was not causing significant issues within the reserve. Consequently, preventing the introduction of plant disease into the site is a high priority. Should dieback be confirmed within the Reserve in the future, the Reserve is well suited to treatment with phosphite.

Fire History and Management

The last fire to occur in the reserve occurred in late Autumn 1997/1998. It is understood that this fire was a hot, burn deliberately lit as a controlled burn.

The reserve is bounded on all three sides by roads which provide excellent access and ensures good separation to nearby residences. The small size and low fuel levels associated with the Reserve further reduce the fire risk.

An assessment of the reserve by the Shire Fire Control Officer identified the site as representing a 'High' Hazard rating and that some prescribed burning or other fuel reduction may be required in the future in order to manage this hazard. Blythe Reserve is managed by the Shire of Busselton and if a decision is made by the Shire of Busselton to carry out prescribed burning, recommendations will be given on the methods of prescribed burning, response to fire, protection requirements for the Declared Rare Flora (DRF) / Threatened Ecological Community (TEC) and timing of burns by Land for Wildlife (LFW) / Department of Environment and Conservation (DEC). Preliminary advice from DEC suggests that any prescribed burning should be undertaken in the winter months to achieve a slow trickle burn as a mosaic burn will be difficult to achieve due to the small size of the Reserve.

Land for Wildlife has assessed the diversity of species and the TEC is exhibiting the full compliment of species that are expected. As such, prescribed or fuel reduction burns are not recommended for regeneration purposes. As an alternative to prescribed burning, smoke water and heat treatment of seeds and heap burns are recommended for seed germination and the promotion of diversity.

Feral animals

Foxes, feral cats, and domestic cats and dogs are considered a significant issue in Blythe Reserve as they have the potential to impact upon native fauna. Foxes and feral cats prey on a wide range of native fauna including mammals, birds, frogs and invertebrates. Foxes and domestic animals are common in the area and have been shown to predate upon WRP and Southern Brown Bandicoot in nearby areas. In addition, cats are also the principle vector for the disease Toxoplasmosis that can seriously affect native fauna.

Rabbits are likely to utilise the site. Rabbits graze young plants and compete for resources with native fauna, help support fox and cat populations and create site disturbance through burrowing and digging. No warrens were apparent on the reserve at the time this plan was prepared.

2.0 HUMAN USE ATTRIBUTES

Given the small size of the reserve, it currently experiences a high intensity of recreational use by both locals and tourists. The area is utilised by local residents for walking including dog walking and a number of paths criss-cross the reserve as a result of this activity. The site is recognised as an important wildflower site in spring and therefore experiences a high degree of pedestrian traffic from locals and tourists. It is noted that in previous years that the Busselton and Dunsborough Visitor Centres have actively directed people to the Reserve for wildflower viewing. While individuals are encouraged to visit the Reserve and appreciate its conservation values, the lack of parking, formalised walk trails and interpretive signage make it an inappropriate site for large numbers of visitors.

Off-lead dog exercise in the Reserve is currently prohibited, and should be actively discouraged due to the potential adverse affects on native fauna such as Western Ringtail Possums, Quenda and various reptiles, and disturbance to native vegetation. It is acknowledged that there was some community interest in changing the designation of the site to a dog prohibited area.

3.0 MANAGEMENT OBJECTIVES

Blythe Reserve has significant conservation values including a significant area of the Threatened Ecological Community Type 3B, habitat areas for the threatened Western Ringtail Possum (*Pseudocheirus occidentalis*) or Ngwayir, the presence of a least one species of Priority Flora (*Acacia lateriticola* glabrous variant). In addition to this, the Reserve experiences a high level of usage by local residents and visitors and its wildflower displays in spring are highly valued by the local community. Blythe Reserve should be managed to protect these values by implementing active management to protect and enhance the vegetation.

Vesting and Purpose of Reserve

Action:

It is recommended that the Shire of Busselton request the Department of Planning and Infrastructure to change Blythe Reserve from the existing 'C' Class Reserve to an 'A' Class Reserve to reflect the conservation values of the reserve and ensure long term protection. The current purpose 'Protection of Flora' is considered appropriate.

Weed Management

Weed Management is a key element of this management plan and the long term maintenance of conservation values of Blythe Reserve.

Advice from the Department of Environment and Conservation and the Department of Agriculture and Food identified that:

- a combination of chemical and non-chemical control is most appropriate for Blythe Reserve;

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- targeted chemical control techniques such as weed wipers and selective herbicides such as Fusilade® (a grass selective herbicide) provide sophisticated tools for managing weeds on a sensitive site; and that
- careful herbicide use is unlikely to have a negative impact upon wildlife or human health.

Action:

- Implement strategic weed control in the Reserve based on the control methods identified in Appendix 3.
- Herbicide use within the Reserve should only be undertaken by appropriately trained and qualified operators and will be limited to those chemicals identified within Appendix 3.
- In accordance with the Friends of Reserves Strategy, herbicide use by volunteers will be restricted to Roundup Biactive.
- When herbicides are used in the Reserve, temporary signage stating what chemical is being used and on what date it was used should be erected in the area of work. The sign should be erected on the day of control and remain for at least 2 days following spraying.

Walkway Rationalisation

Blythe Reserve currently contains a number of informal paths and trails. This issue was discussed during the community workshop and following this discussion, participants were given the opportunity to indicate which paths were important for access and therefore should be retained. Workshop discussions plus the written submissions have been considered in preparation of the recommended path layout identified in Appendix 5.

Action:

In order to minimise the impact of pedestrian access through the reserve. it is recommended that:

- the existing paths be rationalised and limited to the paths identified in Appendix 5;
- each of the 3 designated entry points to the Reserve be clearly identified with a bollard marked with a wildflower symbol;
- all remaining paths be progressively rehabilitated through planting and brushing with prunings of native vegetation sourced from the Reserve during any maintenance activities;
- maintenance of the designated paths should ensure that the width is kept to less than 1m; and
- designated paths should be pruned to ensure that they can be clearly identified as the official pathway.

It was identified by the community that during spring, tour buses visit the Reserve because of its spectacular wildflower displays. Blythe reserve currently lacks the infrastructure to deal with large numbers of visitors such as parking, toilets, formalised walk trails and interpretative signage. While individuals are encouraged to visit Blythe Reserve and appreciate the spectacular wildflower displays, given the lack of infrastructure, visitation by buses and coaches should not be encouraged.

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The Busselton and Dunsborough Visitor Centres were contacted in relation to this issue and were provided with a list of appropriate reserves within the Shire for large groups to appreciate our wildflower displays.

Action:

- Informal monitoring of this issue by the surrounding community and the Friends of Blythe Reserve.
- Where required, follow up action will be conducted by the Shire.

Fire Management

While LFW have advised that prescribed burning is not recommended for the maintenance of floristic diversity within the reserve, the Shire's Fire Control Officer has identified that the 'high' fire hazard rating assigned to the site may require fuel reduction burns in the future in order to manage the hazard to the surrounding area.

When, for the purposes of managing the fire hazard, fuel reduction burning is considered necessary it should comply with the following guidelines:

- the recommended minimum fire frequency for the Marri dominated TEC of 8 to 10 years;
- only undertaken following consultation with the "Friends of Blythe Reserve" and DEC/LFW;
- conducted in winter;
- if possible, conducted in stages throughout the Reserve to create a mosaic of burnt and unburnt areas;
- take into consideration the location and requirements of the Priority Flora known to occur on site; and
- follow up weed control will be required to reduce infestation of annual weed species.

No native vegetation should be removed, pruned or damaged in Blythe Reserve for fire management purposes, unless written consent is received from the Shire and the Department of Environment and Conservation. When taking such action, consideration must be given to the potential impact it may have on the conservation values of the reserve.

Slashing of the road verges is considered appropriate as part of fire management in the site, with a minimum frequency of twice yearly. In order to delineate between the maintained, slashed verges and the native vegetation, bollards at approximately 20m spacings are recommended. These will provide a sightline for slashing and ensure slashing does not encroach into the bush land areas. The location of these bollards should be determined in consultation with the 'Friends of' group. Where invasive grass species represent a problem a herbicide strip should be considered to reduce weed invasion of the bush land portion of the site..

The verge along Gibney Street contains a number of plants of *Acacia lateriticola* glabrous variant, a Priority 3 species. These need to be checked, labelled and some

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form of protection, such as yellow markers, installed so that slashing operations do not affect these plants.

Fox and Cat Management

Baiting for foxes and cats is not considered appropriate given the surrounding residential land use and the potential for off target poisoning of domestic cats, dogs and birds of prey.

Action:

- Promote thick local native understorey to reduce access and the potential impact of feral and domestic animals.
- Monitor fox and feral cat numbers by undertaking spotlight surveys during optimal conditions (i.e. when it's not cold, with low wind, no rain and a new moon).
- Where monitoring identifies an issue, baited wire cage traps can be used to capture foxes and feral cats. Traps are available from the Shire of Busselton, who will dispose of feral cats and foxes humanely. If a domestic cat is trapped, the Shire of Busselton will act in accordance with the Shire's Local Law for the Keeping and Welfare of cats.
- Encourage responsible cat ownership by surrounding residents in accordance with the Shire of Busselton Cat Local Law.

Rabbit Management

Similarly, baiting for rabbits is not considered appropriate in this area given the potential for off-target poisoning.

Action:

- Shire of Busselton and the Friends of Blythe Reserve monitor the impact and presence of rabbits and respond accordingly.
- If warrens are found to occur on site, fumigation is considered the most appropriate option in order to avoid risks to off target species. Any fumigation should be undertaken in conjunction with and under the approval of the Department of Agriculture and Food (DAFWA).
- If significant rabbit damage occurs, but warrens are not present, introduce Rabbit Calicivirus Disease (RCD) or myxomatosis to the reserve.

Domestic dogs

Blythe Reserve is currently utilised as a dog walk and exercise area. The reserve is not currently identified as a dog prohibited area or as a designated dog exercise area. Accordingly, dogs are currently permitted in the Reserve provided they are kept on a lead and effectively restrained. Some community interest was expressed within the workshop held during the preparation of the plan for changing the designation of the reserve to a 'dog prohibited area'. It is likely that this would support the conservation values of the reserve, however, such a change is a

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difficult process to achieve due to the requirement to amend the entire Dog Local Law.

Action:

- Maintain the existing situation allowing controlled dog use on a leash.
- Shire of Busselton to reconsider dog use within the Reserve when the Dog Local Law is next amended or reviewed.
- Community to monitor the effectiveness of dogs being kept under restraint and report to the Shire.

Dieback

Initial testing and assessment of Blythe Reserve by a DEC dieback interpreter did not identify the presence of *Phytophthora* dieback within the reserve.

Action:

- Prevent the introduction or spread of plant disease by implementing a good hygiene regime as detailed within Appendix 4.
- Closely monitor the site for the symptoms of dieback including sick or dying indicator species. Annual photo monitoring in spring is suggested as a useful tool for this.
- Undertake assessment of the site by a qualified dieback interpreter where dieback is suspected utilising soil and root matter sampling as required.
- Where dieback is confirmed or suspected undertake treatment with Phosphite.

Site Survey and Monitoring

It has been identified that the existing information regarding the conservation values of the site could be well supplemented and management actions further refined by further survey and monitoring of the site's ecological values. Specific aspects where additional data and information would be of value include:

- Monitoring of possum use and numbers within the Reserve;
- Monitoring of quenda use and numbers within the Reserve;
- Monitoring of fox and cat use and numbers within the Reserve; and
- On going monitoring of the TEC and priority flora species within the Reserve.

The Land for Wildlife report provides additional information on useful monitoring and survey of the Reserve including suggested techniques.

4.0 IMPLEMENTATION

Community Involvement

Community involvement is considered critical to the effective management of reserves such as Blythe Reserve and it is recognised that a 'Friends of Blythe Reserve' group has already been formed and have been pivotal in the progression of the Management Plan to this point.

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The Shire of Busselton should support the 'Friends of Blythe Reserve' and work closely together in order to co-ordinate and facilitate the implementation of this plan.

Priority Actions and Timeline

The following table identifies approximate timing and priorities of the various actions and task identified within the plan.

Action	Priority	Timing
Weed Control	High/Moderate	2007 onwards (reducing with time)
Walkway rationalisation	High	2007 (ongoing monitoring)
Dieback, fire and feral animal monitoring and management	Moderate	Ongoing
Vesting and purpose of the reserve	Low	2007
Monitoring and survey of Reserve ecological values	Low	2007 ongoing

Funding Opportunities

Given the size and nature of the Reserve the ongoing implementation of this plan does not involve extensive resources. However, the plan requires a small investment in weed control and walkway signage and rationalisation early in the life of the plan.

Given the conservation values of Blythe Reserve, potential sources of funding to assist in the implementation of the Plan may include projects focusing on threatened species and ecological communities such as Geocatch's Biodiversity Hotspot Project.

Life of Plan

Management of the Reserve is to be consistent with this plan until such time as this is superseded by a revised plan.

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5.0 REFERENCES

Bramwell, E. (2001). *Living with Quendas*. Department of Conservation and Land Management, Western Australia.

Brown, K. and Brooks, K. (2002). *Bushland Weeds: A practical guide to their management*. Environmental Weeds Action Network (Inc.), Greenwood.

Dieback Working Group (2005). *Managing Phytophthora Dieback in Bushland: A Guide for Landholders and Community Conservation Groups, Edition 3*.

Keighery, B.J. (1994). *Bushland Plant Survey: A guide to plant community survey for the community*. Wildflower Society of Western Australia (Inc.), Nedlands.

Kemp, C. (2005). *Blythe Reserve, Land for Wildlife Report, Reg. No 1488*. Department of Conservation and Land Management, Western Australia.

Kemp, C. and Bramwell, E. (1999). *Living with Possums*. Department of Conservation and Land Management, Western Australia.

Shire of Busselton, (2000). *Shire of Busselton's Friends of Reserves Strategy*.

Appendix 1 - Location and aerial photograph of Blythe Reserve

Figure 1: Location of Blythe Reserve.

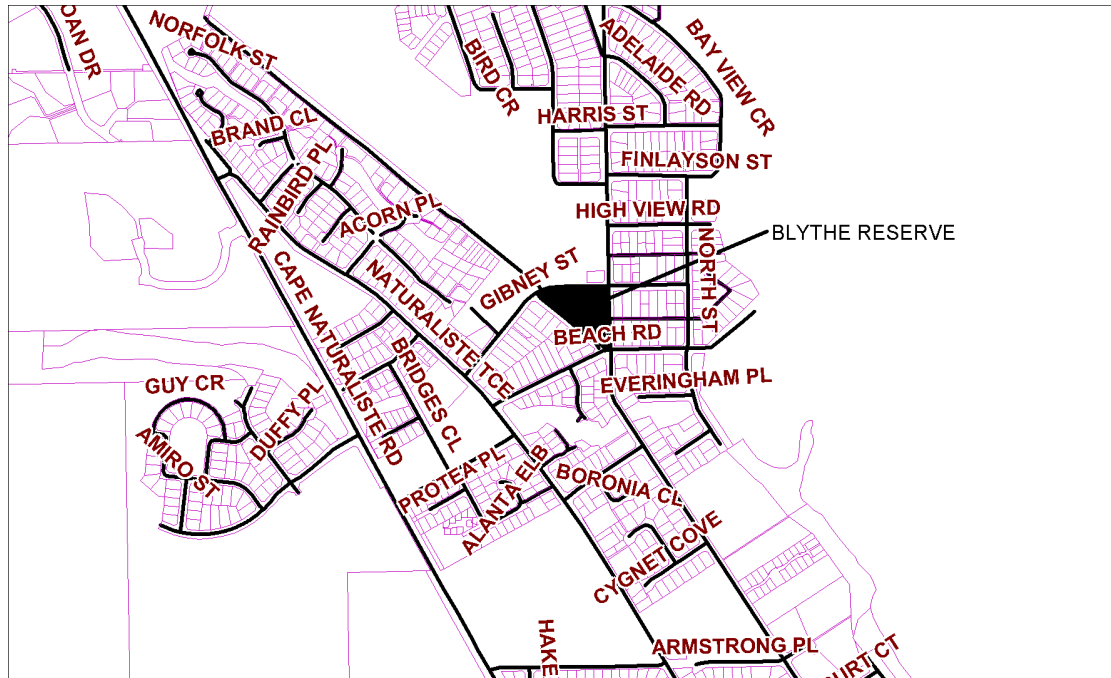


Figure 2: Aerial plan of the Reserve.



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Appendix 2 - Native Species list

BLYTHE RESERVE No. 35773 Vascular Plant Species 2007		
Nomenclature: Cape Naturaliste Regional Herbarium		
Determinations by: H. Cole and D. Carter (Toby Inlet Catchment Group)		
FAMILY	SPECIES	FLOWER PERIOD
ANTHERICACEAE		
	Dichopogon capillipes	Dec
	Sowerbaea laxiflora	Aug-Sept
	Thysanotus sparteus	Jan
	Agrostocrinum hirsutum	Oct
	Thysanotus arenarius	Sept-Nov
APIACEAE		
	Trachymene pilosa	Sept-Oct
	Xanthosia candida	Sept-Oct
ASTERACEAE		
	Craspida variabilis	Aug-Sept
	Brachyscome iberidifolia	Sept-Oct
	Siloxerus filifolius	Oct
	Hyalosperma simplex	Sept
	Cotula turbinata *	July-Sept
	Asteridea pulverulenta	Oct-Nov
	Dittrichia graveolens *	April
	Rhodanthe citrina	Oct
	Hypochaeris radicata*	Sept-Oct
	Lagenophora huegelii	Sept
	Millotia myosotidifolia	Oct
CASUARINIACEA		
	Allocasuarina humilis	June
CYPERACEAE		
	Mesomelaena stygia	Sept
DILLENIACEAE		
	Hibbertia hypericoides	Aug
EUPHORBIACEAE		
	Phyllanthus calycinus	July/Sept
FUMARIA		
	Fumaria capriolata *	July-Aug
GENTIANACEAE		
	Centaurium tenuiflorum *	Nov
GOODENIACEAE		
	Dampiera lindleyi	Aug-Sept
	Scaevola calliptera	Oct-Nov
HAEMODORACEAE		
	Phlebocarya ciliata	Oct-Dec
	Anigozanthus manglesii ssp manglesii	Jul-Sept
	Conostylis acuelata ssp gracilis	Jul-Sept

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HYPOXIDACEAE		
	<i>Hypoxis occidentalis</i> var <i>quadriloba</i>	
IRIDACEAE		
	<i>Patersonia occidentalis</i>	Sept-Oct
LAMIACEAE		
	<i>Hemiandra glabra</i> ssp <i>glabra</i>	Sept-Nov
LOBELIACEAE		
	<i>Lobelia rhytidosperma</i>	Oct-Nov
LORANTHACEAE		
	<i>Nuytsia floribunda</i>	Nov-Dec
MENYANTHACEAE		
303A	<i>Villarsia latifolia</i>	
MIMOSACEAE		
	<i>Acacia stenoptera</i>	Jan
	<i>Acacia lateritica</i> "glabrous variant"	Aug-Sept
	<i>Acacia pulchella</i> var <i>pulchella</i>	Aug
	<i>Acacia huegelii</i>	Nov-Dec
MYRTACEAE		
	<i>Baekea camphorosmae</i>	
	<i>Melaleuca raphiophylla</i>	Nov
	<i>Agonis flexuosa</i> var <i>flexuosa</i>	Sept
	<i>Corymbia calophylla</i>	Feb
ORCHIDACEAE		
	<i>Caladenia latifolia</i>	Sept-Oct
	<i>Diuris</i> aff <i>amplissima</i>	Sept-Oct
	<i>Elythranthera emarginata</i>	Oct
	<i>Eriochilus dilatatus</i> ssp <i>multiflora</i>	April-May
	<i>Pterostylis vittata</i>	April-Aug
	<i>Prasophyllum</i> aff <i>parvifolium</i>	Jun-July
PAPPPILLIONACEAE		
	<i>Jacksonia furcellata</i>	Nov
	<i>Viminaria juncea</i>	Nov-Dec
	<i>Isotropis cuneifolia</i> subsp <i>cunefolia</i>	Sept
	<i>Kennedia prostrata</i>	July
	<i>Hardenbergia comptoniana</i>	July
	<i>Chorizema nanum</i>	July-Sept
	<i>Bossiaea eriocarpa</i>	Sept
	<i>Hovea chorizemifolia</i>	
	<i>Kennedia carinata</i>	
	<i>Gompholobium tomentosum</i>	Nov
PITTIOSPORACEAE		
	<i>Marianthus tenuis</i>	
	<i>Billardiera heterophylla</i>	Oct
PROTEACEAE		
	<i>Adenanthos meisneri</i>	Oct-Dec
	<i>Synaphea petiolaris</i>	July-Aug
RHAMNACEAE		
	<i>Trymalium ledifolium</i> var <i>rosemarinifolium</i>	July-Sept
	<i>Cryptandra arbutiflora</i> var <i>tubulosa</i>	Aug
RUTACEAE		

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	<i>Philotheca spicata</i>	July-Sept
STACKHOUSIACEAE		
	<i>Stackhousia monogyna</i>	Sept-Oct
	<i>Tripterococcus brunonis</i>	Sept-Oct
STERCULLIACEAE		
	<i>Rulingia cygnorum</i>	Sept
STYLIDIACEAE		
	<i>Stylidium calcaratum</i>	Oct
	<i>Stylidium diversifolium</i>	Sept-Oct
	<i>Stylidium megacarpum</i>	Oct
	<i>Levenhookia pusilla</i>	Nov
	<i>Stylidium piliferum</i>	Oct
THYMELAEACEAE		
	<i>Pimelea rosea</i> ssp <i>rosea</i>	Aug-Sept
XANTHORRHOEACEAE		
	<i>Xanthorrhoea preissii</i>	Sept
ZAMIACEAE		
	<i>Macrozamia reidlei</i>	Oct

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Appendix 3 - Common weeds and recommended control techniques*

Common Name	Scientific Name	Degree of infestation	Degree of invasiveness	Recommended Control Method
Annual Grasses		Moderate	High/moderate	Spray at 2-3 tiller stage with Fusilade or other grass selective herbicide.
Annual Veldt Daisy	<i>Osteospermum ecklonis</i>	Isolated/previously controlled	Moderate	Hand pull.
Arum Lily	<i>Zantedeschia aethiopica</i>	Previously controlled	High	Monitor to ensure new populations do not establish.
Kikuyu	<i>Pennisetum clandestinum</i>	Low	High	Avoid dumping of grass clippings and garden refuse into the reserve. Spot spray using Glyphosate* (1% plus 0.25% pulse) or Fusilade (1%) when actively growing. Repeat every 8 weeks or when regrowth reaches about 5cm tall.
Love Grass	<i>Eragrostis curvula</i>	Low	High	Spray with Glyphosate* (100ml in 10L water). Repeat applications required to control seedlings.
Sydney Golden Wattle	<i>Acacia longifolia</i>	Isolated/previously controlled	Moderate	Apply herbicides in spring or when trees are actively growing. Inject stems or trunk with 1ml Tordon Timber Control herbicide per 1.5m of height.
Veldt Grass	<i>Erharta longiflora</i>	Moderate	High	Spray using 20ml Fusilade plus 100ml spray oil in 10L water applied in winter provides good control with little damage to broad leaf species. repeat annually.
Watsonia	<i>Watsonia spp.</i>	Isolated	High	Dig up or twist and pull isolated plants. For larger infestations spray with 100ml Glyphosate* plus 25ml wetting agent per 10L water or sponge glove with 1L Glyphosate* in 2L water.
Couch Grass	<i>Cynodon dactylon</i>	Isolated	High	Avoid dumping of grass clippings and garden refuse into the reserve. Spot spray using Glyphosate* (1% plus 0.25% pulse) or Fusilade (1%) when actively growing. Repeat every 8 weeks or when regrowth reaches about 5cm tall.
Freesia Hybrid	<i>Freesia</i>	Widespread	High	Spray at flowering with 0.1 g Metsulfuron plus 25ml Pulse in 10L of water.

*In wetland areas such as along the creekline, the use of herbicides should be minimised to minimise the potential for contamination of surface waters and damage to aquatic animals. Where ever possible any herbicide used in this area should be limited to the 'frog friendly' Roundup Biactive **without** the addition of wetting agents/ surfactants. Under the Shire of Busselton's Friends of Reserves Strategy, only Roundup Biactive is to be used by volunteers working on reserves. Where weed control requires alternative herbicide treatment, contractors or Shire staff will be required.

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Appendix 4

Guidelines to maintain a dieback free site (from Dieback Working Group - *Managing Phytophthora Dieback in Bushland*)

<p>Planning</p> <ul style="list-style-type: none"> • Schedule activities that involve soil disturbance for low rainfall months (November to March) when the soil is dry. • Minimise the number of tracks through the bushland and ensure that all tracks are well drained. Avoid constructing tracks on the upper slopes of the bushland. • Minimise soil disturbance during fire break maintenance. Mow, slash or use herbicide rather than grade or plough. • Ensure that water doesn't drain into the bushland from other areas, for example roads. Phytophthora dieback impact is greatest in wet sites. <p>For all Activities</p> <ul style="list-style-type: none"> • Vehicle access to bushland should be avoided. If a vehicle must enter bushland, ensure that it stays on hard, well-drained tracks and avoids puddles. • Vehicles, tools, equipment and machinery should be free of all mud and soil when entering bushland. • Footwear should be free of mud and soil when entering bushland. 	
<p>Earthworks</p>	<ul style="list-style-type: none"> • Avoid bringing soil, gravel or sand into the bushland. If this material must be introduced, ensure that it is free of Phytophthora dieback or purchased from a soil supplier with Nursery Industry accreditation (refer page 42 for information about soil testing and suppliers).
<p>Bushland Restoration</p>	<p>Weeding</p> <ul style="list-style-type: none"> • If weeds are being manually removed they should be immediately placed in a container to ensure that plant material or soil is not dropped in other parts of the bushland. <p>Revegetation</p> <ul style="list-style-type: none"> • If weeds and other disturbances are controlled, revegetation should not be necessary in bushland. Revegetation has a high risk of introducing Phytophthora dieback, so should be avoided in bushland that has not been infested. However, if revegetation is required: <ul style="list-style-type: none"> • Consider direct seeding rather than planting seedlings. • Complete planting when soil is moist but not wet. • Purchase plants from nurseries with Nursery Industry accreditation. • Do not use mulch, or only use mulch that has been well composted (the heating part of the composting process kills Phytophthora dieback). • Water should be from the mains supply. If from a creek, dam or river, the water should be sterilised (refer to page 35).

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Access	<ul style="list-style-type: none"> • Minimise walking in the bushland when the soil is wet and muddy. • Stay on tracks. Consider up-grading tracks to a hard well-drained surface that does not allow for the easy movement of soil around the bushland. • Plan walks to start in high parts of the bushland and move to low parts of the bushland.
Communication	<ul style="list-style-type: none"> • In public reserves, place signs at reserve entrances to highlight the disease situation in the bushland and recommend avoiding access when the soil is wet and sticking to footwear. • In public reserves, hold a 'wildflower walk' in spring. Highlight the potential impact of Phytophthora dieback and how visitors can prevent its introduction. • Look out for activities occurring near the bushland that could introduce the pathogen, for example, road building. Find out if the activity is operating under hygienic conditions. If not, contact the Environment or Parks Officer at your local council or the relevant authority. • Discuss the Phytophthora dieback status of the bushland with neighbouring landholders.
Protecting Vegetation	<ul style="list-style-type: none"> • Observe susceptible plants and note any deaths. Implement phosphite treatment if plant death occurs (refer to page 29-33). • Do not dump rubbish or green waste into bushland.
Horses and Livestock	<ul style="list-style-type: none"> • Keep horses and other stock out of bushland. • If horses or other stock must enter bushland, ensure that their hooves are free of mud and they stay on hard, well drained tracks.
Fire	<ul style="list-style-type: none"> • Mow, slash or use herbicide on fire breaks rather than plough or grade. • Have contractors clean the equipment before entering bushland.

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Appendix 5

Approximate location of core paths/ trails to be signed and promoted at entry and exit points to the Reserve.

