



**Minion Park (Reserve 27292)
Management Plan**

ADOPTED JUNE 2007

Minion Park Management Plan

1.0 INTRODUCTION

Minion Park is a small urban reserve located in Broadwater, Busselton. It is comprised of two separate parcels. The main area is approximately 0.45 ha in size and bounded on the east and north by Little Colin St, Harnett St to the west and Bussell Hwy to the south. The remaining portion is a thin strip approximately 60 metres long and between 10 and 15 metres wide between Bussell Hwy and the Cape View resort. (Refer Appendix 1, Figure 1: Locality Map and Figure 2: Aerial photo).

It is a class 'C' Reserve, vested in the Shire of Busselton for public recreation and identified as Reserve 27292.

The western portion of Reserve is generally well vegetated with significant peppermint woodland as over-storey and a mixed understorey of local and introduced species. The eastern strip is largely cleared with only a few mature peppermints over introduced annual and perennial grasses. The landform is a gently undulating sandy flat.

Vegetation and Flora

The Reserve is mapped as QD in the Shire of Busselton's Remnant Vegetation Strategy, a vegetation complex rated as 'poorly represented' with less than 30% of the pre-European extent remaining. It comprises WA Peppermint (*Agonis flexuosa*) over Coastal Sword Sedge (*Lepidosperma gladiatum*) with scattered Basket Bush (*Spyridium globulosum*), mixed coastal Acacia species and Salt Berry Bush (*Rhagodia baccatta*). Using the Keighery (1994) rating system, the western sector is classified as being in 'good' condition. Understorey is thick in parts, however recent clearing has left areas bare and prone to weed invasion. The eastern sector is rated as 'completely degraded'. A detailed flora survey was not undertaken for the preparation of this management plan, however, a preliminary species list is provided in Appendix 2.

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 habitat for the threatened Western Ringtail Possum (*Pseudocheirus occidentalis*) (WRP) and the Southern Brown Bandicoot or Quenda (*Isodon obesulus*) which is recognised as Priority Fauna.

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.

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A number of possum counts were undertaken in Minion Park by possum expert Barbara Jones prior to the understorey clearing. Over eight counts conducted between May 2002 and December 2004 an average of six adults were found to be resident within Minion Reserve. Six adults within Minion Reserve is equivalent to approximately 15 possums per hectare which is considered very high. This highlights the fact that Minion Park, although small represents extremely valuable possum habitat.

A possum count approximately three months after the clearing works found only a single live possum and a dead individual believed to have been predated upon by foxes. This evidence of predation, coupled by the dramatic drop in numbers highlights the importance of thick understorey vegetation, dominated by dense Coastal Sword Sedge (*Lepidosperma gladiatum*) which was largely lost as a result of the Shire's clearing.

Weeds

A number of weeds are present in the reserve, including Dolichos Pea, Buffalo Grass, Couch Grass, Rose Pelargonium, Veldt Daisy, Blackberry Nightshade and Twiggy Mullein. These weeds, plus a number of annual grasses such as Wild Oats and Rye Grass have become significantly more prevalent due to the understorey clearing. Effective control of these weeds is required for successful rehabilitation of the understorey and control techniques are detailed in Appendix 3.

Phytophthora Dieback

No testing for *Phytophthora cinnamomi* dieback has occurred in the Reserve. There are no obvious signs of infestation, however this may be due to the lack of indicator species rather than a lack of dieback. Minimising soil disturbance in wetter times, and ensuring good hygiene practices are followed when undertaking works in the reserve will assist in minimising the introduction or spread of dieback in the reserve.

Fire History and Management

There are no detailed fire records for this reserve. The Shire's Fire Control Officer does not consider the reserve to be a significant fire hazard due to its small size, and low fuel levels. The reserve is surrounded on four sides by roads which provide easy access and ensure sufficient separation to nearby residences. Being in the middle of a residential area, there are also fire hydrants within close proximity.

Recent clearing of understorey due to concerns about the reserve posing a fire threat to surrounding residences has severely degraded the ecological values of the reserve, and exposed large areas of bare ground, resulting in significant weed invasion (predominantly annual grasses). Following this understorey clearing, the Shire of Busselton received strong advice from DEC, GeoCatch, fauna experts and the local community that the understorey vegetation in the reserve was recognised as providing important habitat to threatened fauna (WRP) and that the clearing had heavily impacted on the significant conservation values of the reserve.

Feral animals

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Foxes, feral cats, and domestic cats and dogs are considered a significant issue in the reserve as they have the potential to impact upon native fauna. Foxes and domestic animals are common in the area and have been shown to predate upon WRP in the Reserve. Baiting for foxes and cats is not considered appropriate given the surrounding residential landuse and the number of domestic cats and dogs that may be affected by non-target baiting. Establishing thick understorey to reduce access is considered the best way to reduce the potential impact of feral and domestic animals on WRP.

Rabbits are likely to utilise the reserve but no permanent warrens are currently evident. If rabbits become a problem and are resident on the reserve in the future, fumigation of warrens is considered the most appropriate control option as baiting poses the potential for off-target poisoning to cats, dogs and birds of prey if carcasses are mouthed/consumed.

2.0 HUMAN USE ATTRIBUTES

The reserve is currently not highly used for passive or active recreation, and it is considered appropriate that such uses be actively discouraged. Passive recreation such as walking will reduce the success of understorey re-establishment programs and increase weed invasion and soil erosion. Furthermore, there is a well utilised dual access path that runs along the beach foreshore only a few hundred metres north of the reserve and Minion Park is small enough that it is considered practical for pedestrian access to be limited to the edges.

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. A dog exercise area is available on the beach foreshore between Harnett St and Newtown Beach Rd and it is considered that this dog exercise area is adequate for the locality and current demand.

3.0 MANAGEMENT OBJECTIVES

Minion Park should be managed for its conservation values as it contains a significant area of low peppermint woodland that has been identified as having exceptional habitat value for the threatened Western Ringtail Possum (*Pseudocheirus occidentalis*) or Ngwayir.

Because Minion Park has high value in terms of WRP habitat, the Shire should actively manage this reserve to protect and enhance the vegetation. It is essential that rehabilitation works are undertaken in the recently degraded areas as soon as possible to restore these habitat values by re-establishing a thick understorey of locally native vegetation.

Action: Implement the following rehabilitation program.

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Rehabilitation Program

- Conduct weed control in the natural areas as detailed in Appendix 2.
- Mulch and re-spread all existing piles of dead understorey and spread over all bare ground where regeneration is not yet occurring. Leave large branches and fallen trees to provide habitat values.
- Undertake a planting program utilising the species and the density presented below.

Common Name	Scientific name	Recommended planting density and notes
WA Peppermint	<i>Agonis flexuosa</i>	1/5 m ²
^Rottnest Teatree	<i>Melaleuca lanceolata</i>	1/5 m ²
Basket Bush	<i>Spyridium globulosum</i>	1/3 m ²
Salt Berry Bush	<i>Rhagodia baccata</i>	5/1 m ²
*Coast Sword Sedge	<i>Lepidosperma gladiatum</i>	5/1 m ²
Knotted Club Rush	<i>Isolepis nodosa</i>	5/1 m ²
Rigid wattle	<i>Acacia cochlearis</i>	1/1 m ²
Sharktooth Wattle	<i>Acacia littorrea</i>	1/1 m ²
^Coastal Daisy Bush	<i>Olearia axillaris</i>	1/1 m ²
^Prickle Lily	<i>Acanthocarpus preissii</i>	1/1 m ²
Native Wisteria	<i>Hardenbergia comptoniana</i>	1/1 m ²

^ These species, although not identified on the reserve during field visits, occur in a similar vegetation community nearby, and are proven good revegetation species.

* At the time of writing this species was beginning to re-establish in some of the areas disturbed by the recent clearing. Where natural regeneration is occurring supplementary planting densities maybe able to be reduced.

Fire Management

Given the size and separation of the site from surrounding residences, controlled burns or fuel reduction measures are not currently considered necessary.

Slashing of the verges is required to reduce fire hazard, with a minimum frequency of not less than twice yearly.

Vegetation Corridor Creation

The main section of Minion Park although consisting of good habitat, is a small reserve with limited connectivity to other remnant peppermint woodland. There may be opportunities to try and help create some connectivity between Minion Park and other areas of Western Ringtail Habitat to the east along Bussell Hwy to Shire Reserve 31182 on the corner of Harvest Rd and beyond to Acacia Caravan Park.

The small area of Minion Park to the east of Little Colin St is currently poorly vegetated, however recent plantings and irrigation of WA Peppermints as part of the Cape View Resort should provide long term canopy connectivity in this area. At a future date, consideration could be given to undertaking understorey plantings to reduce predation impacts.

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A trial using elevated crossings at Little Colin St, Ray Ave and Harvest Rd could be implemented to provide a vegetation corridor from MacIntyre Park to Minion Park to Harvest Park and beyond to Acacia Caravan Park. These crossings would provide an opportunity for possums to travel between and along these vegetated areas without having to go to ground. These forms of crossings have been used with success for other species elsewhere in Australia and the UK. The crossings could be in the form of a rope or wire cable, however advice would need to be sought from DEC and the WRP Recovery Team as to the best design and implementation.

This corridor would also link with a proposed corridor to be enhanced from Minion Park to the foreshore area as part of the Cape View Stage 3 development.

Action: Investigate options for the creation of a possum corridor to allow movement of possums in the areas shown on Figure 3 in Appendix 4.

Purpose of reserve

It is recommended that the Shire of Busselton request the Department of Planning and Infrastructure to change the purpose of Minion Park to Landscape Protection to better reflect the habitat values and management intent of Minion Park.

On-going maintenance

No native vegetation should be removed from, pruned or damaged in Minion Park, including for fire management purposes, unless written consent is received from Shire Environmental staff and the Department of Environment and Conservation have been consulted. Consideration must be given in taking such action as to the potential impact it may have on possum habitat.

In the Western portion of Minion park, existing bollards along the Bussell Highway edge and the existing stormwater drain adjacent to Little Colin St provide effective delineation of road verges and bushland areas of the site to guide slashing and limit car parking in the reserve.

Action:

- Install bollards between the Western edge of the reserve adjacent to the Harnett Stand road verge, and along Bussell Hwy and the Eastern Portion of Minion park to guide slashing operations and prevent damage to revegetation areas of the Reserve by slashing and car parking.

Green Waste Dumping

The reserve is currently being utilised as a dumping site for green waste and some litter. This poses a number of problems including: the introduction of weed species to the reserve, nutrient addition and pollution of stormwater in the drain to the west and south of Little Colin St.

Action:

- Send a letter to surrounding residents making them aware that such activities are prohibited and the adverse effects they can have, and requesting assistance in notifying the Shire in the event that they witness people dumping rubbish or green waste in the reserve.

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- Install signage highlighting the habitat protection values of Minion Park and identifying the penalties for dumping rubbish or green waste in the area.

4.0 IMPLEMENTATION

Community Involvement

Community involvement in the implementation of this plan should be actively encouraged. To assist in on-going maintenance of the Minion Park it is recommended that a 'Friends of Minion Reserve' group be formed to assist with implementation of this management 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*
Rehabilitation including revegetation	High	Primarily 2007-2008
Installation of bollards	High	2007
Possum crossing installation and corridor linkage	Moderate	2008 onwards
Address green waste dumping	Low	2007
Install signage	Moderate	2007
Dieback, fire and feral animal monitoring and management	Moderate	Ongoing
Change the Reserve vesting	Low	2007

* A focus on weed control prior to and within the first two years of replanting should significantly reduce the work required in subsequent years consequently, this is identified as a high priority in the short term, reducing to a moderate priority in the medium and long term.

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, revegetation bollards and signage during 2007 and 2008 in order to minimise the habitat degradation impacts of the understorey clearing undertaken in 2006.

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It is identified that Shire of Busselton has a responsibility to fund rehabilitation of areas degraded by the Shire's clearing.

GeoCatch's Biodiversity Hotspot Project may represent a potential source of funding for trials involving elevated possum crossings.

Life of Plan

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

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5.0 REFERENCES

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

CoastWise (2001). *Geographe Bay Foreshore Management Plan: Technical Report*. Prepared for the Shire of Busselton and the Geographe Catchment Council.

Jones, B. (2006). Personal communication.

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

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*.

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Appendix 1 -

Figure 1. Locality

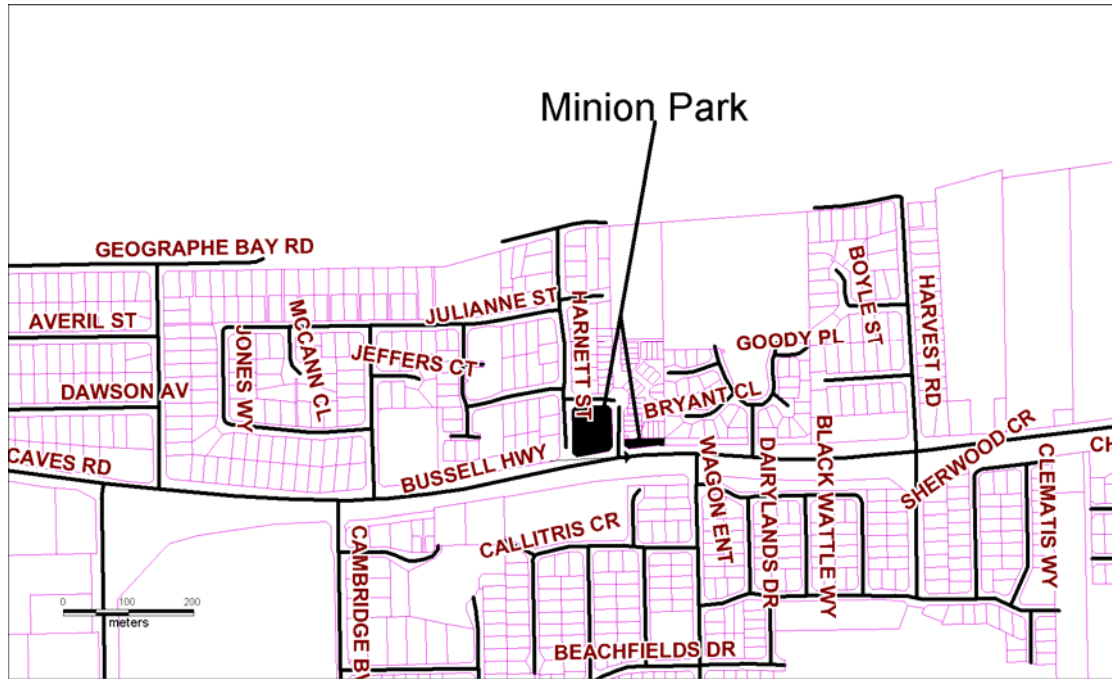
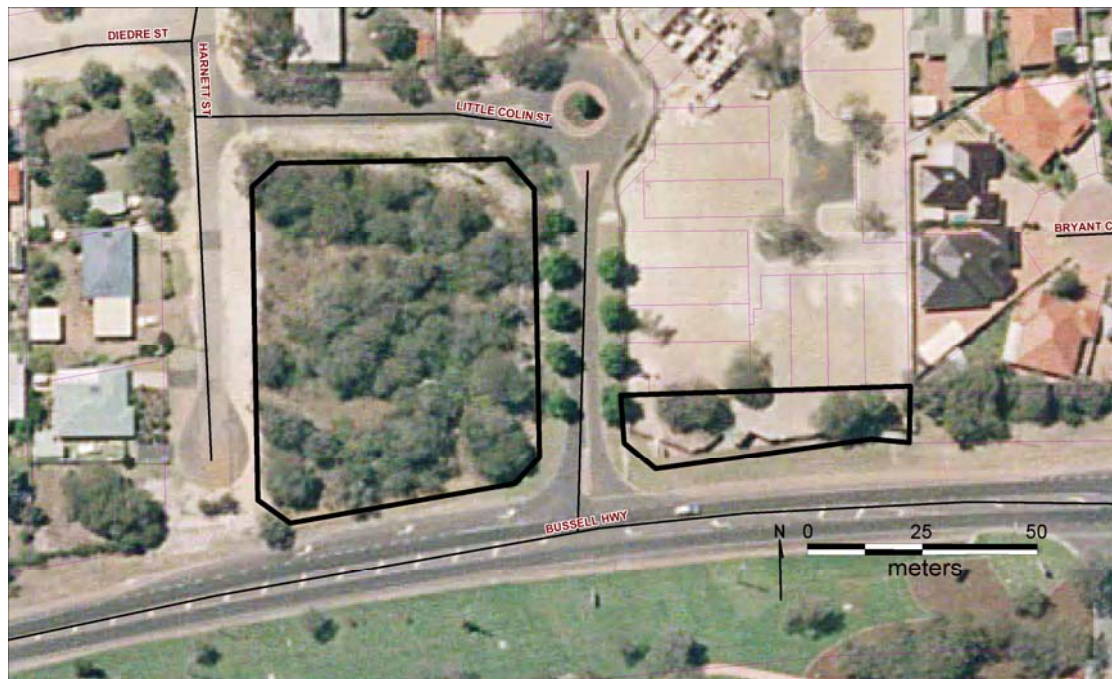


Figure 2. Aerial photograph



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Appendix 2 - Preliminary Native Species List*

Common Name	Scientific name	Dominant/Common/Isolated/Rare
WA Peppermint	<i>Agonis flexuosa</i>	D
Basket Bush	<i>Spyridium globulosum</i>	C
Salt Berry Bush	<i>Rhagodia baccata</i>	D
Coast Sword Sedge	<i>Lepidosperma gladiatum</i>	D
Knotted Club Rush	<i>Isolepis nodosa</i>	I
Rigid wattle	<i>Acacia cochlearis</i>	I
Sharktooth Wattle	<i>Acacia littorea</i>	C
Native Wisteria	<i>Hardenbergia comptoniana</i>	I
Coastal Beard Heath	<i>Leucopogon parviflorus</i>	C
Prickly Conostylis	<i>Conostylis aculeata</i>	I
Flax Lily	<i>Dianella revoluta</i>	

* This is a preliminary list based upon brief site inspections undertaken following the "parkland clearing" of the site. A detailed survey undertaken during various seasons and following natural regeneration following the clearing will yield a greatly increased species list.

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Appendix 3 - Priority weeds and recommended control techniques

Common Name	Scientific Name	Degree of infestation	Degree of invasiveness	Recommended Control Method
Buffalo Grass	<i>Stenotaphrum secundatum</i>	Low	High	Spot spray using Glyphosate or Fusilade when actively growing. Repeat applications will be required.
Kikuyu	<i>Pennisetum clandestinum</i>	Low	High	Spot spray using Glyphosate or Fusilade when actively growing. Repeat applications will be required.
Rose Pelargonium	<i>Pelargonium capitatum</i>	Low	Moderate	Hand pull, ensuring all stem is removed. Spot spray with metsulfuron methyl.
Veldt Daisy	<i>Osteospermum ecklonis</i> was <i>Dimorphotheca ecklonis</i>	Isolated	Moderate	Hand pull small plants, spot spray with glyphosate.
Blackberry nightshade	<i>Solanum nigrum</i>	Isolated	Moderate	Hand pull small plants, spot spray with glyphosate. Minimise soil disturbance to reduce seed germination.
Annual Grasses such as Wild Oats and Rye Grass		Widespread	High in disturbed areas, moderate in undisturbed	Spray at 2-3 tiller stage with Fusilade or other grass selective herbicide.
Dolichos Pea	<i>Dipogon lignosus</i>	Low	High	Whilst at the current low levels suggest manual removal from host plant and spot spraying with Metsulfuron methyl, Tordon 75- D or Grazon.

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Appendix 4 - Figure 3. Potential Possum Corridor.

