Geographe
Education Support Centre

Principal: Gemma Bosnjak
Lot 153 Clydebank Avenue,
Busselton 6280
Phone: 9754 0103 Fax: 9754 0166 (Primary) or 9752 2799 (Secondary)

Management Plan
for the western portion of
West Street Foreshore
Reserve 37207

(High Street to King Street)

Adopted March 2005

Prepared for the Shire of Busselton

by

Geographe CALM Bushrangers,

Friends of West Street Foreshore Reserve

1 INTRODUCTION

Background

This report has been prepared in response to a meeting between the Geographe CALM cadets and the Shire of Busselton and subsequent request for a management plan for the section of West Street Foreshore Reserve 37207. The reserve is the beachfront area of land from the King Street car park to the car park at the end of High Street and is a coastal foreshore.

Purpose

The purpose of this Management Plan is to provide clear guidelines for maintaining and improving the conservation values of the Reserve, which will assist in ensuring sustainable use of the coastal environment.

The Principal Objectives

- To assess the biophysical and social values of the reserve and to determine appropriate strategies for its future use.
- To protect the environmental values of the study area by restricting access and enhancing the existing native vegetation.
- To identify the local flora, fauna and weeds and to decide which plant species will be selected for planting in the revegetation programme and to determine positioning for taller plant species.

The plan will:

- Describe the existing biophysical environment including descriptions of the soils and landforms, vegetation and fauna.
- Identify existing recreational uses and values associated with the reserve.
- Recommend actions to manage issues identified from the site inspections, community and relevant stakeholders.
- Prioritise recommendations made for the future use and protection of the reserve.

Location of the Reserve

Reserve 37207 is located along the beachfront on Geographe Bay Road from West Street to King Street. The study area of this management plan is a section of the foreshore from High Street to King Street. The area of reserve covered by the plan is approximately 30,000 square metres.

Approach to the Study

The cadets undertook a site reconnaissance during June 2004. They identified broad vegetation zones, defined areas of disturbance and identified the location of access points and positioning of taller plant tree species. Aerial photography in conjunction with the field data was used to delineate vegetation types on site, which was photographed and identified. Weeds were also photographed and identified.

The cadets surveyed local residents about their attitude to our proposals to:

- Revegetate the reserve
- Fence off sections of the reserve for revegetation.
- Establish 2 formal pathways for access

Residents in Reading Street, sections of Geographe Bay Road and Thomas Street were surveyed and 90% of the respondents agreed to the idea of establishing two formal access points while 100% agreed to the area being fenced off and revegetated.

2 DESCRIPTION OF THE ENVIRONMENT

The West Street foreshore Reserve 37207 encompasses approximately 30,000 square metres of moderate coastal vegetation which is in good condition.

The site is reserved for 'Recreation' under the District Town Planning Scheme. The Reserve's current use is limited to local residents accessing the beach and two boats are stored on its beachside edge. Residential lots are located opposite the reserve, and there is a vegetation buffer opposite Reading Street, bordering the central section of the study area.

Topography

The study area is characterised by low lying coastal secondary and tertiary dunes.

Vegetation

The vegetation is coastal Peppermint Woodland which is typical for coastal dunes of the area.

Flora

Plant species identified on the Reserve included:

- Lepidosperma gladiatum - coastal sword sedge
- Agonis flexuosa – WA Peppermint trees
- Spinifex longifolius - Beach Spinifex,
- Carpobrotus virescens - Pigface
- Spyridium globulosum - Basket Bush
- Acacia cochlearis - rigid wattle
- Santalum acuminatum - Quandong

Introduced weeds in the Reserve include Couch Grass (*Cynodon dactylon var dactylon*), Haretail Grass (*Lagarus ovatus*), Dune Onion weed (*Trachyandra divaricata*), Sea Spurge (*Euphorbia paralias*) Wild Oats (*Avena fatua*), Sea Rocket (C*akile maritima*), Bridal Creeper (*Asparagus asparagoides*), Rose Geranium (*Pelargonium capitatum*) and *Gazania spp*. Also note that *Cotoneaster spp* has the potential to infest the Reserve from opposite side of Geographe Bay Road.

Fauna

No resident fauna were observed during the time of the site visit. Appendix 4 contains a list of fauna typically found in foreshore areas adjacent to Geographe Bay. There is the potential for the Wesern Ringtail Possum (*Pseudocheirus occidentalis)* to occur in the Reserve*.*

Reserve condition

Most of the reserve area has been threatened by one or more disturbances, which have affected its ability to maintain itself. The following disturbances have resulted in degradation of the vegetation and bushland habitat:

- Partial clearing for the establishment of access tracks
- Weed invasion
- Dumping of garden refuse and litter
- Erosion from storms

Condition of the vegetation

Based on the condition scale used in Bush plan (Government of WA 1998) the vegetation on the reserve is in 'Good' condition. There are signs of disturbance by tracks made through the reserve but there is enough of the basic vegetation structure present to enable the reserve to be rehabilitated. There are signs of soil removal and dumping of garden refuse. A number of aggressive weeds were found in the study area including Bridal Creeper and Rose Pelargonium.

Table 1

Vegetation Condition Scale
(Taken from Bush Plan, 1998)

Pristine	*Pristine or nearly so, no obvious signs of disturbance*
Excellent	*Vegetation structure intact, disturbance affecting individual species and weeds are non aggressive*
Very Good	*Vegetation structure significantly altered obvious signs of disturbance.*
Good	*Vegetation structure significantly altered by very obvious signs of multiple disturbance retains basic Vegetation structure or ability to regenerate*
Degraded	*Basic vegetation structure severely impacted by disturbance.*
Completely Degraded	*The structure of the vegetation structure is no longer intact and the areas are completely or almost completely without native species.*

Human Use Attributes

Local residents were surveyed regarding putting in formal pathways for access to the beach and their response was very positive.

Results were:

50% of respondents used the area to access the beach.
90% of respondents agreed to the establishment of two formal access ways .
100% of respondents agreed to the idea of the area being fenced off and revegetated.

Some comments were:

"What a great idea"
"We congratulate you"
"We welcome the rehabilitation of this area"
"We are amazed at the number of mature Peppermint trees being bulldozed in this area"

Beach access

There is a dual use path bordering the southern side of the reserve and parking areas at either end of the reserve. To the western end of the reserve are toilets and change rooms. Currently the reserve is not fenced, so consequently access at present is uncontrolled, which has probably contributed to the many informal pathways through the reserve.

3 MANAGEMENT STRATEGIES

This Management Plan does not propose any concepts which will result in the loss or degradation of native vegetation. The installation of any paths will not involve any clearing of vegetation as existing paths and cleared areas will be used. The installation of fences along the margin of the western side of the path will assist in restricting pedestrians from trampling vegetation and new revegetation.

The Management Plan was developed in consultation with community and has identified the following strategies for the management of the reserve.

Recreation

It is recommended that two pathways be established based on the common usage and approximately equal distance apart through the reserve where the most heavily trafficked areas are, as determined by the aerial photographs and observations.

Use of the foreshore reserve for storage of private boats is inappropriate as it will impact on the ability of the vegetation to rehabilitate areas of the dunes.

Recommendations

- *Establish two access tracks to the beach using posts and six high tensile black plastic wires and surfacing the paths with crushed limestone (location of proposed tracks shown on the location map, appendix one).*
- *Remove the boats kept in the dunes so that areas to revegetate are not disturbed but allowed to re-establish.*
- *Investigate alternative post materials for use in fencing the Reserve.*

Signage

There is no signage on the Reserve but it is recommended that a sign be placed on the Reserve explaining that the rehabilitation of the reserve is a Geographe CALM

cadets project. Colours and materials used in the construction of this a sign should blend in with the foreshore environment. Some directional signs to pathways may be appropriate.

Recommendations

- *That a small sign, blending in with the foreshore environment and explaining the rehabilitation project of Geographe Bushrangers, be erected on the Reserve.*

Pollution Control

Rubbish receptacles are located at either end of the Reserve. It is not considered that the formalisation of pathways will increase littering of the reserve as the paths already exist.

Fire Management

Assess to the Reserve in the event of a fire is currently from Geographe Bay Road which provides good access for fire fighters. There is no need for any additional fire access points.

Fencing

A complementary action to the provision of access paths is to fence the reserve along Geographe Bay Road so that pedestrians are encouraged to use the access paths provided. This will allow for protection of the flora and fauna in this area and allow successful revegetation of the dunes using the local species identified in Table 2. The style of fencing recommended is 1.2 metre high posts with high tensile black plastic plain wire.

Recommendations

- *Fence the Reserve along the north side of the dual use path on Geographe Bay Road using plain wire fencing.*
- *Remove weed species in the reserve and replace with local species in a staged process beginning within the western end nearest the toilet block.*
- *Install bollards or kerbing to eastern car park to prevent vehicle access.*

Weed Control

All bushland and coastal areas have, to varying degrees, become invaded by exotic species generally originating from Mediterranean Europe and South Africa. Alteration of the physical ecosystem by the direct action of humans such as vegetation clearing, soil disturbance, increased frequency/intensity of additional inputs and dumping of garden refuse are factors which contribute to progressively give advantage to exotic plant species over native vegetation. The control of major weeds should be a priority in the management of the Reserve.

Recommendations

- *Commence weed control strategies during the appropriate season.*
- *Extend the native understorey to the road kerbing.*
- *Weed control methods should be specific to particular weed species and ecosystems.*
- *Weed control should be not undertaken in isolation but as a component of the vegetation rehabilitation programme.*
- *Weeds should be replaced with native species see Table 2*

Rehabilitation of vegetation to restore habitat and protect the dunes

The removal of weeds and the replanting of local native species in particular will provide additional habitat for terrestrial fauna. Maintaining and promoting the condition of the WA Peppermint trees (*Agonis flexuosa*) will promote the survival of the Western Ringtail Possum in the Reserve. They are highly arboreal - feeding, resting and sleeping in the canopy as much as possible. Peppermint leaves are their main dietary component. Increasing the density of the peppermint trees by planting will help to reduce the need for the possums to come down from the canopy where they are often attacked by cats and dogs.

Rehabilitation of the reserve should follow basic principals of Bush regeneration

Recommendations

- *Work from areas in good condition toward weed infected areas.*
- *Ensure minimal disturbance to soil and native vegetation.*
- *Let the rate of regeneration of native plants determine the rate of weed removal.*
- *Implement a long-term maintenance programme to monitor weed control methods and native flora regeneration.*
- *Revegetate using local species as listed in Table 2, in areas which have been cleared of weeds. This is an integral step in the controlling of weed invasion in the long term and for the survival of local species.*

Table 2 - Species list

Adjacent to Geographe Bay Road	***Beach side of the Reserve***
Agonis flexuosa	*Lepidosperma gladiatum*
Olearia axilaris	*Acacia littorea*
Lepidosperma gladiatum	*Spyridium globulosum,*
Spinifex longifolius	*Carpobrotus virescens*
Spyridium globulosum,	*Acacia cochlearis*
Acacia cyclops	*Santalum acuminatum*
Hibbertia cunniformis	*Agonis flexuosa*
Hardenbergia comptoniana	*Olearia axilaris*
	Spinifex longifolius

FUNDING AND IMPLEMENTATION

Shire assistance is required for construction of fencing and pathways. The Cadet Unit is very happy to assist in manual labouring tasks involved in the construction of the pathway and fencing, if required.

The Cadet Unit will carry out the other actions recommended in this plan, such as collect seed on the site, remove rubbish and weeds and replant areas of dunes with recommended plant species.

Study Area of Management Plan for Reserve 37207 **Appendix 1**