

**MANAGEMENT PLAN
RESERVE 19787
CAMFIELD, BROKE INLET
SHIRE OF MANJIMUP**

Prepared for:

Shire of Manjimup
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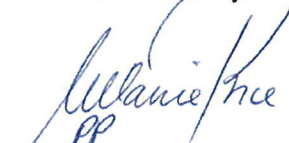
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ABBREVIATIONS

AHD	Australian Height Datum
ATV	All Terrain Vehicle
CCWA	Conservation Commission of Western Australia
cm	Centimetre
DOF	Department of Fisheries
DEC	Department of Environment and Conservation (previously Department of Conservation and Land Management, CALM)
DPI	Department for Planning and Infrastructure
° C	Degrees Celsius
e.g.	example
4WD	Four Wheel Drive
ha	Hectare
hr	Hour
IBRA	Interim Bio-geographic Regionalisation of Australia
km	Kilometre
m	Metre
mm	Millimetre
NRM	Natural Resource Management
PASS	Potential Acid Sulfate Soils
SCEF	South Coast Estuarine Fishery
SCPP	State Coastal Planning Policy
spp	Species
UCL	Unvested Crown Land
WAPC	Western Australian Planning Commission

EXECUTIVE SUMMARY

Coffey Environments Pty Ltd was commissioned by the Shire of Manjimup to prepare a Management Plan for Crown Reserve 19787 (Camfield Reserve) on Broke Inlet. The Shire has the management orders for Reserve 19787 with a purpose of 'Camping'.

The Shire's main objective is to secure the 'power to lease' for Reserve 19787. The Shire seeks to have more control over the quality and management of the squatters shacks. This objective is considered in this document in light of current State Government Policy, with options to guide the Shire of Manjimup in this matter.

The main issues of interest in this Management Plan are:

1. Management of the squatters shacks;
2. Protection of the biodiversity values of the area;
3. Provision of services for low key day use and camping;
4. Management of access; and
5. Provision of information at the site.

This Plan has been designed to guide the management of Reserve 19787 for a period of at least 10 years. To ensure flexibility, it is recommended that the plan be treated as a 'living document' with appropriate amendments made during its lifetime, after consideration by the Shire of Manjimup, in consultation with the community.

The priority and timing of the Recommendations reflects the Shire of Manjimup's capacity to service the action, rather than the urgency of the action.

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Summary of Recommendations:		
Recommendations include:	Responsibility (and partners)	Priority and Timeframe
Protection of Site Character		
Retain the 'low key' character of the site with allowances for sustainable use and enjoyment by the whole community.	Shire of Manjimup	High, Ongoing
Consultation and integration with surrounding land uses		
Form a steering group with representatives from the Shire of Manjimup, DEC, freehold landowners, squatters shack residents, commercial fishermen, indigenous representatives and the general public to guide the future management of Reserve 19787.	Shire of Manjimup	High (1-3 years)
Consult with DEC regarding management actions that relate to biodiversity, access and fire issues.	Shire of Manjimup	Medium, Ongoing
Notify and consult the South West Aboriginal Land and Sea Council regarding new development or proposals on Reserve 19787 and consider resulting advice for incorporation in the final Management Plan.	Shire of Manjimup	Medium, Ongoing
Involve Indigenous representatives in the monitoring of any earthmoving activities on site and engage a suitably qualified archaeologist should cultural material be found.	Shire of Manjimup Department of Indigenous Affairs	Medium, Ongoing
Squatters Shacks		
The Shire of Manjimup's primary objective is to obtain the 'power to lease' Reserve 19787. Liaison with the Department of Regional Development and Lands (State Land Division) will be needed in this matter.	Shire of Manjimup Department of Regional Development and Lands	High (1-3 years)
Open dialogue with the occupiers of the squatter	Shire of Manjimup	High (1-3 years)

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shacks in order to initiate a planned course of action for ongoing management of the structures.		
If the 'power to lease' the squatters shacks for the long term is not granted, the Shire of Manjimup should consider applying to the Department of Regional Development and Lands for a 6 year lease which will incorporate the staged removal of the squatters shacks.	Shire of Manjimup Department of Regional Development and Lands	Medium (1-3 years)
If the 'power to lease' is not available that the Shire of Manjimup investigate the appropriateness of retaining elements of a shack or shacks for use as a caretakers residence, general public use and/or shelter. This would require an audit of building standards.	Shire of Manjimup	Medium (3-10 years)
Approach the Department of Regional Development and Lands regarding the possible creation of leases for shacks that are under the bone fide care and control of commercial fishermen with current leases (as supported by the State Squatters Shack Policy, 1999).	Shire of Manjimup	High (1-3 years)
Carry out audits relating to effluent disposal and general safety of the shacks.	Shire of Manjimup	High (1-3 years)
Recreation and Tourism		
If squatter shacks are retained or an additional camping area is required, investigate the development of a 100m by 100m area of the Marri forest to the east of the coastal dune and shacks.	Shire of Manjimup	Medium (3-10 years)
If squatter shacks are removed- use the resulting area for incorporating a delineated camping area, day use parking, picnic area and interpretation.	Shire of Manjimup	Medium (3-10 years)

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Provide basic infrastructure to support sustainable use of Reserve 19787 including: A composting toilet, Delineation of camping and day use areas, and Furniture such as picnic tables.	Shire of Manjimup	High, (3-10 years)
Education, Interpretation and Signage		
Develop an Interpretive Signage Plan to design and locate signs that guide, educate and inform.	Shire of Manjimup	Medium (3-10 years)
Erect traffic signs to advise of possible rough road conditions and to reduce speed.	Shire of Manjimup	Medium (3-10 years)
Entry Access and Parking		
Liaise with the Department of Regional Development and Lands (State Land Division) in order to widen the road reserve to incorporate the entry track that crosses over UCL from Broke Inlet Road.	Shire of Manjimup	Medium (3-10 years)
Stabilise foreshore track with limestone rubble or similar dieback free material.	Shire of Manjimup	Medium (3-10 years)
Create turnaround area on foreshore track.	Shire of Manjimup Services	Medium (3-10 years)
Rationalise vehicle tracks that lead to Broke Inlet Beach through use of bollards. Rehabilitate closed tracks.	Shire of Manjimup	Medium (3-10 years)
Lock existing gates to prevent access to Inlet foreshore. If this does not prevent access, additional signage and bollards may be required.	Shire of Manjimup	High (1-3 years)
Delineate pedestrian path to beach with pine post and rail structures and harden surface with limestone gravel.	Shire of Manjimup	Medium (3-10 years)
Flora and Fauna Management		

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Liaise with the DEC to determine most effective way to protect significant flora and fauna.	Shire of Manjimup, DEC	High, Ongoing
Control vehicle access on the Inlet foreshore to prevent damage to significant flora species.	Shire of Manjimup, DEC	Medium (1-3 years) Ongoing
Invasive Species – (domestic animals, feral animals, weeds and dieback)		
Educate visitors as part of an Interpretive Signage Plan, to request that pets are under control at all times and that excreta is removed.	Shire of Manjimup	Medium (3-10 years)
Liaise with DEC and adjacent landowners to ensure collaboration in the control of feral animals.	Shire of Manjimup, DEC, adjacent landowners and shack residents	Medium, Ongoing
Conduct a weed monitoring and eradication program around the shacks.	Shire of Manjimup	Medium (1-3 years)
If the shacks are removed, eradication of the weeds associated with shacks should be specified as a task associated with the removal.	Shire of Manjimup	Medium (1-3 years)
Any post fire rehabilitation works will be required to ensure the eradication of weeds that may propagate after fire. Post fire weed control should involve manual and chemical controls of weed propagules along newly constructed fire breaks in accordance with the methods prescribed in the Shire of Manjimup Weed Strategy.	Shire of Manjimup, shack residents	High, as required
Maintain current restrictions of vehicle access within the Reserve, so vehicles can only access the shack area and the boat ramp in the adjacent National Park.	Shire of Manjimup	Medium (3-10 years) Ongoing
Include dieback information in an overall Interpretive Signage Plan.	Shire of Manjimup	Medium (3-10 years)
Visitor Safety		
Manage visitor risks associated with the squatter shacks, fire, mosquito borne disease and other matters.	Shire of Manjimup	High, Short term (1-3 years)

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Fire Protection and Management		
Liaise with the DEC regarding the proposed prescribed burn operations that will incorporate Reserve 19787.	Shire of Manjimup, DEC	Medium, Ongoing
Perform pre- fire suppression activities including the maintenance of fire breaks around the shacks (if retained) and camping area.	Shire of Manjimup	Medium, Ongoing
Prepare a plan for post fire rehabilitation and include contingencies for track closures and rehabilitation of new fire line tracks constructed during suppression.	Shire of Manjimup	Medium, Ongoing (1-3 years)
Include fire response and safety information in an Interpretive Signage Plan (including escape routes and refuge zones).	Shire of Manjimup	Medium (3-10 years)
Carry out a fire safety audit to determine the suitability of wood fire based heating systems used in shacks.	Shire of Manjimup	High, Ongoing
Rehabilitation		
If the shacks are removed, prepare a rehabilitation plan to guide a cleanup of the area.	Shire of Manjimup, shack residents	Medium (1-3 years)
Use local native species in any re-vegetation works in the Reserve.	Shire of Manjimup	Medium, Ongoing

1 INTRODUCTION

1.1 Background

Coffey Environments have been engaged by the Shire of Manjimup to develop a Management Plan for Reserve 19787. The Management Plan is to be designed to improve the management of Reserve 19787 over the next 10 years.

1.1.1 Location, Tenure and Context

Camfield is an area on the eastern edge of Broke Inlet which includes Crown Reserve 19787 (Reserve 19787). Reserve 19787 was created in 1978 with the management orders in favour of the Shire of Manjimup for the purpose of 'Camping'. The 40.486ha Reserve is approximately 40km west of Walpole and approximately 100km south-east of Manjimup and is situated on the eastern edge of the Broke Inlet (Figure 1). Access to the area is via Broke Inlet Road (a formed gravel road) from the South Western Highway.

Reserve 19787 comprises mainly native vegetation, wetlands and an area in the south west of the site with 13 squatter shacks adjacent to the Broke Inlet (Figure 2). Due to Reserve 19787's remote location and the finite resources of Council, active management of Reserve 19787 by the Shire of Manjimup has been limited. Reserve 19787 shares the values of the adjacent National Park in terms of biological diversity. In addition, it is the only two wheel drive access to Broke Inlet.

Land uses surrounding Reserve 19787 are shown in Figure 2 and include:

- The D'Entrecasteaux National Park which is vested in Conservation Commission of Western Australia (CCWA) and managed by the Department of Environment and Conservation (DEC) (Reserve 36996),
- Freehold titles adjacent to south eastern boundary (Lots 1, 2 and 3 Hughes Road),
- A Trigonometric Point Reserve (Reserve 27438) which is within Reserve 19787,
- A small area to the north of Reserve 19787 (within the National Park) has previously been a refuse disposal site (now closed), and;
- Broke Inlet Road reserve (managed by the Shire of Manjimup).

1.2 Vision and Objectives

Vision

'To manage Reserve 19787 in a sustainable manner, with consideration to its social, historical and environmental values and to allow enjoyment of the area by the whole community, for future generations'.

Objectives

The Shire of Manjimup's main objective for Reserve 19787 is to secure the permanent 'power to lease' over the area currently used by the squatters shacks to allow better management and control of the site.

The Shire of Manjimup's objectives for this Management Plan are to identify:

- The potential for establishment of day use and low key camping facilities.

- How development of the site could be managed to protect the values of the area.
- Suitability of retention of shacks.
- Options for continuation of camping in keeping with Reserve 19787 purpose of 'Camping' (Facilities required e.g. toilets, rubbish disposal, drinking water access control etc).
- Implications of fire management on the use of Reserve 19787 and surrounding areas.
- Weed management strategies (including after possible fire events).
- The need for rehabilitation and/or revegetation.
- Heritage values of the site and how they should be managed.
- How to control domestic and feral animals.
- Implications of surrounding land uses (National Park and freehold land).

2 PLANNING FRAMEWORK

2.1 State Planning Framework

2.1.1 Western Australian State Government Squatters Policy 1999

The objective of the Western Australian State Government Squatters Policy (1999) is to control the establishment of any new unlawful dwellings (squatter shacks) on coastal Crown land and facilitate the removal of existing dwellings (shacks) over a six year period. The Policy was adopted in 1999, and seeks to remove the uncontrolled settlement of publicly owned land and reduce inequities associated with enjoyment of land not available to the wider community. When the Policy was adopted, it was considered that a six year time period would be adequate time to allow for reasonable use of existing investment while deterring extensive improvements or redevelopment. However, there are several areas in Western Australia where the retention of squatter shacks continues to be an issue, including Reserve 19787. Commercial fishermen are exempt from this Policy and are permitted to continue to operate from shack areas, if tenure is formalised and subject to conditions administered by the Local Government (e.g. meeting health, building and safety standards).

2.1.2 State Coastal Planning Policy 2.6

The State Coastal Planning Policy 2.6 (WAPC 2003) acknowledges that there are often competing pressures placed on the coast by different groups in the community for recreational, residential and commercial uses. Planning for coastal land is about balancing these needs to take into account the values of the coast. These values include scenic, aesthetic, ecological, recreational, social and economic. The South Coastal Planning Policy 2.6 (WAPC, 2003) states that local strategies should take into account the broader public interest by supporting the removal of existing unlawful dwellings (squatter shacks) on coastal crown land as per the Cabinet endorsed State Squatters Shack Policy (July, 1989 and January, 1999, Appendix A).

The Draft Augusta to Walpole Coastal Strategy (WAPC 2007) provides detailed land use planning direction for updating local planning schemes to ensure that development does not threaten environmental and landscape values. The Strategy also sets out the State Government's broad planning policies and strategies for the Augusta – Walpole coast and provides a framework for coastal planning, management and sustainable use of the coast. It recommends a number of actions including:

Recommendation 6.6.1b of Draft Augusta to Walpole Coastal Strategy: A site plan for the Camfield Reserve should be prepared to address:

- preferred location and amount of camping;
- level of support facilities required;
- tenure and jurisdiction;
- fire weeds and other threatening processes;
- visual amenity and blending of facilities into Reserve 19787; and
- protection of vegetation and water quality.

2.2 Regional Planning Framework

2.2.1 Shannon and D'Entrecasteaux National Park

The DEC has prepared the draft Shannon and D'Entrecasteaux National Park Management Plan (DEC 2005) which has been released for public comment.

The following are the key values that the Shannon and D'Entrecasteaux Management Plan seeks to protect.

Conservation Values

- Extensive, varied, unique and nationally significant wetland systems that provide habitat for a range of endemic flora and fauna.
- A rich mosaic of vegetation complexes representing wetland, woodland and forest ecosystems protecting restricted vegetation communities and conservation significant flora populations.
- Extensive areas of intact fauna habitat and populations of conservation significant fauna.
- Intact and varied natural landscapes with high scenic quality such as wetlands, inlets, granite outcrops and beaches.
- Sites of outstanding geoheritage, important for research and for understanding the formation of the landscape and environment.

Recreational Values

- Remote areas of potential wilderness quality.
- A terrestrial environment that provides opportunities for a wide range of nature-based recreational opportunities including recreational driving, bushwalking, picnicking, camping, fishing and wildlife interaction.
- Coastal day use opportunities for local communities of the lower south-west.
- Long distance hiking and proposed cycling opportunities on the Bibbulmun Track and extension to the Mundi Biddi Mountain Bike Trail respectively.

Cultural Values

- Aboriginal sites and landscapes of mythological, ceremonial, cultural and spiritual significance.
- Sites, landscapes and stories of European exploration, cattle grazing and droving, and timber settlements of cultural and ceremonial significance to non-Indigenous people.

Economic Values

- Nature-based tourism opportunities for commercial tour operators, focussing on the area's wide range of natural and cultural values.
- Tourism expenditure from visitors attracted by the park's natural and cultural values.

Educational Values

- An extensive range of community educational and interpretation opportunities to describe the native flora and fauna, Aboriginal and non-Indigenous cultural heritage, fire management and ecology of the south-west and the Department's management of the area.

The Camfield Reserve shares many of these values of the surrounding National Park.

The Draft Shannon and D'Entrecasteaux National Park Management Plan identified that the use of vehicles, power generators and other activities on the Camfield Reserve could adversely impact on the values of the National Park if not managed sensitively.

The Camfield Reserve shares many of the values of the surrounding National Park. Activities in, and management of the Camfield Reserve needs to be consistent with the surrounding National Park while also catering for uses that are consistent with its purpose of camping. These activities need to be managed for the long term sustainable use of Reserve 19787.

2.2.2 Shire of Manjimup

2.2.2.1 Local Planning Strategy

The Shire of Manjimup Local Planning Strategy (Landvision *et. al*, 2003) states that camping and recreational uses are likely to be the main future activities for Reserve 19787. While the Strategy does not make a specific recommendation regarding the fate of the squatters shacks, it states that removal should occur in conjunction with the implementation of an agreed Management Plan to provide for such activities. It also states that future options for management of the area will be for the Shire and/or the DEC to control.

The Shire of Manjimup has a Local Planning Policy 6.1.46 for Managing the Natural Environment with objectives of:

- Within planning decisions promote conservation of ecological systems and the biodiversity they support including ecosystems, habitats, species and genetic diversity;
- Within planning decisions assist in the conservation and management of natural resources, including air quality, energy, waterways and water quality, landscape, agriculture and minerals to support both environmental quality and sustainable development over the long term;
- Within planning decisions adopt a risk-management approach that aims to avoid or minimize environmental degradation and hazards;
- Prevent or minimise environmental problems that might arise as a result of siting incompatible land uses together;
- Outline what matters Council will address through the planning system and outline which matters are addressed through other legislation and other agencies; and
- Within planning decisions encourage other stakeholders to fulfil their responsibilities to Natural Resource Management (NRM) through an environmentally sustainable approach, and
- This policy guides Council in its treatment of development proposals and allows it to request information and apply conditions that relate to general environmental matters including:
 - Water resources,;
 - Soil and land;
 - Biodiversity;
 - Land management;
 - Carbon sequestration; and
 - Fire management.

These elements are relevant to the Camfield Reserve and have been conceptually used in the compilation of this Management Plan.

2.2.2.2 Natural Environment Strategy

The Shire of Manjimup Natural Environment Strategy (updated 2008) sets priorities for the protection of natural assets within the constraints of the Shire's resources. The objectives of the Natural Environment Strategy are as follows:

To provide leadership by demonstrating and encouraging behaviour that is environmentally sustainable and as ecologically sustainable as possible;

- To provide technical information and advice where applicable;
- Manage natural areas vested in the Shire based on NRM principles;
- Ensure land use planning is compatible with NRM; and
- Support local groups and NRM stewardship where appropriate and affordable.

2.2.2.3 Weed Strategy

The Shire of Manjimup Weed Strategy (2008) has the following objectives (within the finite resources available to Council):

- Develop weed lists of actual and potentially significant weeds on Shire managed lands;
- Identify a range of programmes and actions that will improve control or eradication mechanisms for weeds in the Shire; and
- Develop partnerships with stakeholders to more effectively integrate weed management outcomes.

This Management Plan adds to the Council's knowledge base of weed distribution in the Shire of Manjimup, and makes recommendations relating to the management of weeds in the Camfield Reserve.

2.3 Local Planning Framework

Previous planning for the site included a Draft Management Plan prepared by Monaghan, Rooke and Robinson in 1994. The plan presented four key recommendations which were discussed within a management strategy and some options were presented. The broad recommendations were:

1. Rationalise the boundaries of Reserve 19787;
2. Prepare for a staged development of the recreational use of Reserve 19787;
3. Redesign the existing recreation area; and
4. Determine the most appropriate management authority

It is Coffey Environments understanding that none of the recommendations from the 1994 Management Plan have been implemented.

3 SITE ANALYSIS AND ASSESSMENT

3.1 Climate

The climate of the Camfield area is characterised by warm, dry summers and cool, wet winters. Annual rainfall is amongst the highest in the State, with 1300mm per annum recorded Walpole North (Bureau of Meteorology, 2009).

Over 75% of the total annual rainfall occurs between April and October, with the maximum occurring in July. The coastal area receives more consistent summer rainfall than inland areas. Heavy rainfall (over 20 mm per day) occurs mainly in winter, but can occur throughout the year.

Humidity varies during the day and between seasons. In summer, a combination of low summer rainfall and high daily temperatures results in a relatively low humidity level which falls from about 65% in the morning to 40% in the afternoon. In winter, when there are low temperatures and high rainfall, the humidity level ranges daily from 90% to 75%.

At Cape Leeuwin to the west (the closest coastal weather station that records wind characteristics¹) the prevailing winds are from the south-east between November and April. During autumn, prevailing winds are from the south and south-west, and in winter to the west. In spring the prevailing winds return to the south, then south-east. Wind speeds on the coast are high, with winds in excess of 20 km/hr (and up to 50 km/hr) for 62% of the time. In winter, wind speeds greater than 50 km/hr occur for 16% of the time.

Climate change due to global warming is predicted to increase temperatures and reduce rainfall in south west Western Australia. This is likely to have a significant negative impact on biodiversity. Other impacts associated with global warming include a predicted 40cm – 80cm rise in sea level by 2100. This is likely to increase erosion in coastal and estuarine areas and increase inundation in low lying areas. Consideration of this should be taken during the planning process with respect to the placement of significant long term infrastructure. Infrastructure with a short to medium life timeframe, such as that discussed in the implementation section of this Management Plan are less likely to be vulnerable as replacement time frames will allow for adaptation.

3.2 Broke Inlet

Broke Inlet is the only large estuary (48km²) in the South-West that has not been significantly altered, either by developments along its shores or within its catchment area (DEC, 2005). The inlet is a large, shallow estuary, linked to the ocean by a narrow seasonally open channel that passes through high ridges of windblown sand dunes. It is fed by the Shannon and Inlet Rivers and varies from nearly fresh water prior to the breaking of the bar and brackish during summer (due to evaporation and sea water intrusion). Sandy beaches along its shores are interspersed with low, rocky headlands of gneiss. The gneissic basement projects above water level in many places to form several small islands.

Broke Inlet is used for commercial fishing (refer to Section 3.8) and is popular with local recreational fisherman, all of whom launch boats from the Camfield area.

¹ Note: Windy Harbour also has a weather station that records wind characteristics. However, this information was not available for this study.

3.3 Existing Access & Site Layout

As shown in Figure 2, most of Reserve 19787 comprises native vegetation with the south western corner supporting 13 squatters shacks and various outbuildings. Broke Inlet Road enters along the southern boundary of Reserve 19787. The last 75m of the road diverges from the Road Reserve and traverses unvested crown land (UCL). The road narrows to a single lane track as it approaches the foreshore and extends for approximately 300m into Reserve 19787, between Broke Inlet foreshore and the first line of sand dunes. The track has some boggy sandy patches that limit the access of 2 wheel drive vehicles and the turning of trailers/caravans. Several informal 4 wheel drive tracks lead from the foreshore track to the edge of the inlet and along the inlet foreshore. These traverse areas of native vegetation, moisture gaining sites, creeks entering the inlet and soft sand. There is no directional infrastructure such as bollards to guide vehicles and pedestrians. There is evidence that indiscriminate access to the Inlet foreshore is causing erosion and damage to vegetation.

There is a second internal track that runs from the main access track to the east of the shacks and then runs in a north/south alignment along the top of a tertiary dune ridge. This track meets Broke Inlet Road inside Reserve 19787 boundary and acts as a fire break.

3.4 Geology, Soils & Landform

Camfield is within a physiographic land unit called the Ravensthorpe Ramp (Cope 1975) which comprises three broad morphological belts lying parallel to the coast. These are the coastal belt, the marine and alluvial swampy belt, and the dissected laterite belt. All three overlie the Ravensthorpe Ramp, with only the coastal and swampy belt occurring within Reserve 19787.

The coastal belt is made up of consolidated calcareous and siliceous sands and consolidated dunes, both of which support shallow, sandy soils. These soils are shallow, porous and deficient in most nutrients, although iron can be found in some of the deeper soils. Iron and peaty podsols may also occur on the deep sands of dunes. The belt consists of aeolian (wind blown) dunes which have encroached inland over Precambrian bedrock, pre-existing wetlands and estuaries. Adjacent to Broke Inlet there are young Holocene (12 000 years ago to present) sand dunes. Behind these coastal dunes, the land drops sharply into an extensive, seasonally-inundated, swampy plain.

The sandy soil of the coastal plain is readily eroded by wind and is extremely susceptible where the coastal dunes are disturbed, sparsely vegetated, near steep slopes or subject to strong winds. The dunes within Reserve 19787 are relatively stable where disturbance has been minimal.

Camfield has a marine and alluvial swampy belt which is characteristically found inland of the coastal dune ridges, where the water table is closer to the surface. This belt was created by coastal dunes blocking surface water flow, which has resulted in the formation of a transitional zone of scattered wetlands between the coast and forested laterite plateau. Broke Inlet itself is a prominent example of this, as it has formed parallel to the coast behind massive consolidated dunes and cliffs. In Reserve 19787, the wetlands behind the shore dunes comprise numerous small lakes, swamps and inundated flats formed in a relatively flat, low-lying, interdunal area (subdued relief to approximately 20 metres above sea level) and is dissected by small streams forming swampy, unchannelled watercourses. In the lower dune slopes and interdunal areas, iron podsols and solonchic soils with a shallow 'A' horizon are common.

3.4.1 Acid Sulfate Soils

Soils that contain iron sulfides within waterlogged sediments are known as 'potential acid sulfate soils' or PASS. When these iron sulfides are exposed to air, the minerals oxidise to produce large quantities of sulfuric acid and dissolved metals (e.g. iron, aluminium and occasionally manganese and cadmium).

The acid affects both soil and water (DEC, 2009), and can damage the environment with impacts such as wetland degradation, fish kills, localised loss of habitat and biodiversity, deterioration of surface water and groundwater quality and invasion of acid tolerant water plants. The dissolved metal mixture can make the soil toxic as well as acidic, so few plants survive. There are also human health concerns if groundwater or surface water resources used for drinking water or recreational activities become contaminated with sulphuric acid or heavy metals.

Acid sulfate soils in Western Australia commonly occur in low lying wetlands, back-swamps, estuaries, salt marshes and tidal flats, though are not constrained to coastal regions. Low-lying land fringing estuaries - typically grey silty or sandy sediments of alluvial origin commonly occurring in low-lying areas adjacent to estuaries are likely to contain PASS. These sediments may locally contain significant amounts of sulphides (up to 0.5% oxidisable sulphur). Sands in particular can be very reactive, and may begin to oxidise within a few hours on exposure to air.

The indicative distribution of PASS includes the wetland areas around Broke Inlet, including those in Reserve 19787. Although there can be some neutralising minerals within soils (e.g. limey sands) these are often quickly consumed by the large quantities of sulfuric acid that are released. In undisturbed states, as the soils presently occur, submergence of the soil materials by water prevents oxygen in the air reacting with the iron sulfides.

Acid sulfate soils often go unnoticed, causing no problems until inappropriate drainage, groundwater management or some other disturbance initiates a cycle of acid generation that can be difficult to reverse (B. Degens, DEC 2009 pers. comm.). Drainage greatly accelerates iron sulfide oxidation rates, so that large slugs of acid groundwater can be released rapidly into waterways during rainfall events. These slugs cause rapid deoxygenation of waterways and smother aquatic life in addition to the effects imposed by the acid and dissolved metals. In some cases, where peat overlying the iron sulphide layer has burnt away, the iron sulfide layer is completely exposed to air. The main risk of environmental degradation in Reserve 19787 and adjacent Broke Inlet, due to acid sulfate soils is considered to be from adjacent groundwater use, short-term dewatering activities or excavation of large areas within or adjacent to Reserve 19787.

The best strategy for managing acid sulfate soils is to avoid disturbing or draining the iron sulfide layer (DEC, 2009). Iron sulfides will not impact on the environment while protected by stable water tables. The DEC guidelines for managing acid sulfate soils where disturbance or dewatering is planned require the proponent to undertake detailed site investigations to determine the depth, extent and acid status of soil. This information is used by the proponent to develop a Management Plan that avoids oxidation of potential acid sulfate soils and manages any acidity where disturbance is unavoidable.

3.5 Biodiversity

Pound and Fontanini (2008) have carried out an initial assessment of the ecological values of Reserve 19787. Coffey Environments staff also visited the site to conduct a preliminary scale assessment of the sites ecological characteristics. The findings of these assessments are summarised below.

3.5.1 Vegetation

The terrestrial vegetation of Reserve 19787 and surrounding areas is characterised by a rich mosaic of shrublands, woodlands and forest combined with areas of wetland and dunal vegetation associations.

The Interim Biogeographic Regionalisation of Australia (IBRA) categorises the Australian continent into regions of like geology, landform, vegetation, fauna and climate (Commonwealth of Australia, 2005). There are 80 such regions throughout Australia and 26 occur in WA. The study area occurs within the Warren IBRA region, which is described as an area dominated by dissected undulating country with

loamy soils supporting Karri forest, laterite supporting Jarrah and Marri forest, leached sandy soils supporting paperbark sedge swamplands and Holocene aged marine dunes with *Agonis flexuosa* woodlands.

The boundaries of the IBRA regions in WA are broadly compatible with the earlier Beard's phytogeographic regions – a hierarchical system of provinces comprised of botanical districts and sub districts. The Warren IBRA is approximately equivalent to the Warren Botanical sub district defined by Beard (1990). Beard describes the Warren Botanical sub district as typically containing tall forest of Karri (*Eucalyptus diversicolor*) on deep loams, forest of Jarrah-Marri (*E. marginata-Corymbia calophylla*) on the leached sands and extensive paperbark (*Melaleuca spp.*) and sedge swamps in valleys.

The Warren IBRA region (and the Warren Botanical sub district) can be further broken down into smaller and more distinct vegetation types. A total of 831 vegetation associations are recognised in Western Australia, of these 704 are individual units and 127 are mosaics consisting of one or more of the individual units (Shepherd *et al.* 2002).

Vegetation communities and vegetation condition were mapped by Pound and Fontanini (2008) and are shown in Figures 3 and 4. A description of the vegetation condition scale is included in Appendix B (Keighery, 1994).

Vegetation Community 1: Wetland

Open Forest of *Taxandria juniperina* (Wattie or Western Cedar) over Low Open Woodland of *Taxandria juniperina* and *Melaleuca cuticularis* over Very Open Herbland of possible *Villarsia sp* and Open Sedgeland of *Baumea articulata*.

Vegetation condition: Keighery 1 – Pristine: No disturbance or weeds found (Pound and Fontanini, 2008). Presence of dieback in the 2009 survey by Coffey Environments indicates that vegetation condition is more likely to be in Excellent condition.

Vegetation Community 2: Upland

Low Woodlands of *Banksia grandis* and *Melaleuca cuticularis* over Tall Open Shrubland of *Taxandria linearifolia* and *Paraserianthes lophantha* over Open Shrubland of *T. linearifolia* and *P. lophantha* over Very Open Shrubland of *A. linearifolia* and *P. lophantha* over Very Open Herbland of *Boronia sp* and over Open Sedgeland of 5 species of unidentified sedges.

Vegetation condition: Keighery 1 – Pristine: No disturbance or weeds found (Pound and Fontanini, 2008). Presence of dieback in 2009 survey by Coffey Environments indicates that vegetation condition may be Excellent in some areas. Dieback presence could not be confirmed for all upland areas (see Section 3.5.3)

Vegetation Community 3: Flatland

Low Open Woodland of *Casuarina sp* over Tall Shrubland of *Acacia myrtifolia* and *Taxandria linearifolia* over Closed Heath of *A. myrtifolia*, *T. linearifolia*, *Hakea linearis* and *Melaleuca sp* over Closed Low Heath of *A. myrtifolia*, *A. linearifolia*, *H. linearis* and *Melaleuca sp* over Open Herbland of *Boronia stricta*, *Anigozanthos flavidus*, *Stylidium scandens* and *Dasypogon bromeliifolius* over a Sedgeland of unidentified sedge species.

Vegetation condition: Keighery 2 – Excellent (No disturbance or weeds found, although dieback may be present).

Vegetation Community 4: Upland

Woodland of *Corymbia calophylla* over a Low Woodland of *Casuarina spp.*, *Agonis flexuosa* and *Banksia grandis* over a Tall Open Shrubland of *Bossiaea linophylla* and *Xanthorrhoea* sp over an Open Heath of *B. linophylla*, *Xanthorrhoea* sp and *Acacia myrtifolia* over Low Shrubland of *B. linophylla*, *Xanthorrhoea* sp and *A. myrtifolia* over a Very Open Herbland of *Anigozanthos flavidus* over a Very Open Sedgeland of several unidentified species.

Vegetation condition: Keighery 1 – Pristine to Completely Degraded. Presence of dieback in 2009 survey by Coffey Environments indicates that vegetation condition may be Excellent to Completely Degraded .

3.5.2 Conservation Significant Flora

There are numerous declared rare and priority flora species either present on the site or identified within the adjacent areas and considered likely to be present on Reserve 19787. These include:

- *Kennedia glabrata* – Declared Rare Flora, known from surrounding areas;
- *Meziella trifida* – Declared Rare Flora, known from surrounding areas;
- *Diuris heberlei* – Priority 2, known from surrounding areas;
- *Hemiandras australis* – Priority 3, located within Reserve 19787;
- *Andersonia auriculata* – Priority 3, known from surrounding areas;
- *Lomandra ordii* – Priority 3, known from surrounding areas;
- *Hypocalymma cordifolium* – Priority 4, known from surrounding areas;
- *Banksia sessilis* (subspecies *cordata*) – Priority 4, known from surrounding areas and possibly identified on site during the Coffey Environments site visit.

3.5.3 Fauna

No detailed fauna surveys have been completed in Reserve 19787 however an initial field assessment of Reserve 19787 made in 2008 (Pound and Fontanini) identified the following fauna;

Western Mud minnow (*Galaxiella munda*);

Balston's pygmy perch (*Nannatherina balstoni*);

Black-striped minnow (*Galaxiella nigrostriata*); and

Water rat (Rakali) (*Hydromys chrysogaster*).

In addition to these species it is considered that fauna found within the neighbouring reserves and National Park are potentially found within Reserve 19787 in areas where suitable habitat exists. It is known that there are over 100 species of native birds, numerous species of both ground and tree frogs and several bat species. Other fauna that have not been identified in Reserve 19787 but are likely to be present include:

- Tiger snake (*Notechis scutatus*);
- Dugite (*Pseudonaja affinis*);
- Bandicoot (*Isodon obesulus*);

- Mardo (*Antechinus flavipes*);
- Dunnart (*Sminthopsis* sp);
- Western Grey Kangaroo (*Macropus fuliginosus*);
- Quokka (*Setonix brachyurus*);
- Chuditch (*Dasyurus geoffroi*);
- Honey Possum (*Tarsipes rostratus*);
- Australasian Bittern (*Botaurus poiciloptilus*);
- Malleefowl (*Leipoa ocellata*);
- Baudin's Black Ccockatoo (*Calyptorhynchus baudinii*); and
- Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*).

Of the above species, the Quokka, Chuditch, Australasian bittern, Malleefowl, Baudin's (longbilled) Black Cockatoo and Carnaby's Black Cockatoo are threatened fauna (DEC, 2005).

There have been limited surveys of invertebrates within the region however it is believed that Reserve 19787 would contain a variety of invertebrate species.

3.5.4 Invasive Species

3.5.4.1 Vegetation Disease and Pathogens

Dieback caused by various species of *Phytophthora* is one of the most significant plant pathogens in the South Western Australia. An estimated figure of approximately 50% of the native flora exhibit some level of susceptibility to *Phytophthora*. The pathogen attacks the root system of individual plants, effectively killing the plant by cutting off the transport system for water and nutrients within the plant.

The majority of Reserve 19787 consists of a largely flat landscape with predominantly acidic, highly leached and nutrient deficient soils with slow drainage. Diseases such as *P. cinnamomi* thrive in these acidic, moist soils. The DEC dieback atlas (2006) identifies the entire Camfield Reserve as being infested by *P. cinnamomi* although this is not supported by positive recoveries of *Phytophthora* via laboratory analysis.

During a site assessment in 2009 by Coffey Environments' DEC accredited *Phytophthora* interpreter, it was identified that *P. cinnamomi* was present in the area surrounding the huts, including the elevated tertiary dune system to the east of the huts. Additionally *P. cinnamomi* was also identified within the large flat wetland areas to the north east of the tertiary dunes, however the dunes in the north of Reserve 19787 appeared to contain areas that are free from infestation.

The dieback assessment of Reserve 19787 was not conducted to the DEC standards of a full on-ground assessment. A full assessment and mapping program should be undertaken to the DEC standards should development works be proposed and implemented.



Photo 1: Expression of *Phytophthora cinnamomi* through a *Xanthorrhoea* sp

Other plant pathogens that may be of concern to the vegetation in Reserve 19787 include rusts (mostly *Puccinia* spp. and *Uromyces* spp.); Armillaria root rot (*Armillaria luteobubalina*); stem cankers (*Botryosphaeria* spp., *Zythyostroma* spp. and *Cryptodiaporthe* spp.); and leaf spots and blights (Shearer 1994). The effects of these diseases are varied but all affect vegetation health and susceptibility to other threatening processes.

Plant families most affected by disease within the region are *Proteaceae*, *Myrtaceae*, *Mimosaceae*, *Papilionaceae*, *Haemodoraceae*, *Goodeniaceae*, *Epacridaceae*, *Poaceae* and *Chenopodiaceae*. These include genus groups such as *Banksia*, *Eucalyptus*, *Grevillea*, *Acacia* and others.

3.5.4.2 Weeds

Landholders, including the Shire of Manjimup, are legally responsible for eradicating weeds that are declared under the *Agriculture and Related Resources Protection Act* (1976), although land holders maintain the right to decide priorities and the level of control which may be linked to resourcing.

Pound and Fontanini (2008) identified the following weeds within Reserve 19787 and on the private properties adjoining Reserve 19787:

- *Kunzea baxterii*;
- *Eucalyptus grandis*;
- *Acacia podalyriifolia*;
- *Genitsa monspessulana*;
- *Rubus* sp (Blackberry);
- *Acacia bailyana*;
- *Acacia elata*;
- *Leptospermum laevigatum*; and
- *Asparagus officinalis*.

All of the weeds were associated with the areas where shacks and other buildings have been erected and may have been introduced as garden species in these areas.

Reserve 19787 is at risk of further weed introduction from the surrounding areas via vehicles, imported garden species and domestic animals. Within the surrounding National Park there are 109 weed

species including Apple of Sodom (*Solanum sodomaeum*), Golden Dodder (*Cuscuta campestris*) and Blackberry that are classified as declared weeds (CALM, 2005). Blackberry, which has been identified within Reserve 19787, is classified as a weed of National Significance and a Strategic Plan has been developed for its management (ARMCANZ and ANZECC 2000).

3.5.4.3 Feral and Domestic Animals

Pound and Fontanini (2008) identified evidence of feral cats (*Felis catus*) within Reserve 19787 however, no direct evidence of feral animals was observed during the initial field assessment. Coffey Environments staff identified possible rabbit diggings and scats in January 2009 but rabbits were not sighted.

Feral animals can potentially have a serious impact on natural systems through direct effects such as predation, habitat destruction, competition for food and territory, introduction of disease, and through environmental degradation by selective grazing, accelerating erosion and polluting streams. Some feral animals move about freely and can have a large range that crosses over land tenure boundaries. Therefore the feral animals that are known from surrounding areas are also likely to have potential impacts on Reserve 19787. Feral animals known from the surrounding areas include (DEC 2005);

Mammals

- Black Rat (*Rattus rattus*);
- Feral Cat (*Felis catus*);
- Feral Dog (*Canis familiaris familiaris*);
- Feral Pig (*Sus scrofa*);
- Red Fox (*Vulpes vulpes*);
- House Mouse (*Mus musculus*); and
- Rabbit (*Oryctolagus cuniculus*).

Fish

- Mosquito Fish (*Gambusia holbrooki*);
- Rainbow Trout (*Oncorhynchus mykiss*); and
- Redfin Perch (*Perca fluviatilis*).

Invertebrates

- (European) Honey Bees (*Apis mellifera*);
- Various molluscs Includes (*Oxychilus sp*); and
- Yabby (*Cherax destructor*).

Of the above species the feral dog, feral pig, Red Fox and the rabbit are declared species under the *Agriculture and Related Resources Protection Act (1976)* (as of April 2001).

There are no restrictions on domestic animals within Reserve 19787. However if these animals are not controlled can have detrimental impacts on native flora and fauna. The adjoining areas of National Park are baited regularly as a part of the DEC's Western Shield poison bait program which is aimed at feral foxes and cats.



Photo 2: Domestic animals are unrestricted within Reserve 19787

3.6 Fire

The most recent fire event in Reserve 19787 was between the squatters' shacks and Broke Inlet and burnt a long narrow corridor of vegetation (Figure 2). This fire event is estimated to have occurred approximately 12 to 18 months previously (i.e. 2007 or 2008). The most recent large fire event was a wildfire in the summer of 2002/2003 which burnt the majority of Reserve 19787 (DEC, T. Farmer pers. comm. 2009). It appears that this fire was contained on the track to the south east of the squatter's shacks. The fuel age south west of this track and around the shacks is older than the rest of Reserve 19787.

Response to fire will vary across Reserve 19787 due the variation in vegetation types. The wetland areas dry out rapidly on a seasonal basis due to climatic variation and the lack of overstorey shelter from sun and wind. As a result these areas are likely to burn readily in Summer and Autumn with high fire intensity. The open woodlands typically consist of less dense vegetation and are not seasonally inundated. Therefore, these areas have lower fuel loadings than the wetlands and will be at risk from fire from Spring through to Autumn. However, fire behaviour can be expected to be less intense than the wetland areas due to a reduced fuel loading. The areas of densely forested vegetation dominated by either Karri or Marri on elevated areas often retain a significant fuel moisture and soil moisture content due to the shelter provided by the vegetation and topography. As a result these areas are often left unburnt by fire events but will burn with high intensity in extreme conditions.

As Reserve 19787 has no boundary fire break separating it from the adjacent National Park, it is currently incorporated into the DEC's prescribed burn program. The DEC seek the cooperation of adjoining land managers including the Department of Main Roads, Department for Planning and Infrastructure, Department of Water, the Shire of Manjimup and the Fire and Emergency Services Authority of Western Australia to ensure complementary fire management on adjacent lands. Ongoing liaison needs to occur with these agencies in regard to fire protection and prevention (DEC, 2005).

Based on all available information, the DEC will prepare a 3-year indicative fire program, which will incorporate both conservation and protection objectives, and be reviewed on an annual basis. This will also include the preparation of prescribed burning plans and the completion of a pre-burn checklist that considers all potential environmental impacts, especially the need to control diseases, and minimise impacts on landscape and visual resources. The DEC will notify the Shire of Manjimup's Fire Control Officer and confirm the burn boundaries prior to the burn. The Shire of Manjimup is responsible for the protection of assets on Reserve 19787. The DEC do not notify the shack owners of any impending burns (DEC pers. T. Farmer comm., 2009).

3.7 Heritage – Indigenous and European

There is evidence that Aboriginal people have occupied the southern coastal areas of Western Australia for at least 6000 years. There are thought to be at least 13 different Aboriginal groups in the south-west, collectively known as Noongars. The word 'Noongar' is identifiable as the word for an Aboriginal person from this region although they may have different vocabularies. The traditional groups closest to the Broke Inlet area are from the Murram (Murrum) group (Crawford and Crawford 2003).

Broke Inlet and its surrounds provided a rich supply of food and other resources for Indigenous people. The area is likely to have formed part of a seasonal transport corridor for the Murram people who travelled on the valley floors between significant lookout points such as Mt Frankland and Mount Pingerup (Ian Michael, DEC, pers. comm.).

The Shire of Manjimup Municipal Heritage Inventory (Shire of Manjimup, 2008) lists 'Broke Inlet Houses (Judy's Hut)' and does not specifically address the collection of shacks. The historical notes in the Inventory states:

'Broke Inlet is highly valued today for its environmental and scenic attributes. There is debate about the origins of the name. It has been linked to Brockman, Broke and Brooks. An early mention of Broke Inlet was by explorer Nairn Clark who in 1841 declared that the area was fine sheep country. There is also mention made of a hut built in 1846 by three men who caught and salted fish for the Mauritius Island market. This was perhaps earliest signs of the commercial fishing activity which has continued in the inlet since the 1950s.'

In 1861 the explorer William Henry Graham witnessed hunting with fire by the Murrum people in the area. He and his companions joined in the wallaby hunt, successfully catching three wallabies.

In the 1880s the Muirs, who were pastoralists at Deeside, had a lease on the coast between the Gardner River and Broke Inlet. They would drive the cattle down Deeside Coast Road each year for summer grazing. The cattle were left there from January to June.

Broke Inlet is the location for a group of cottages and shacks, occupied by a group of commercial fisherman who have been fishing in the Inlet, some since the 1950s. One of these cottages is called 'Judy's Hut'. The long term future of the settlement and fishermen is currently under question.'

Other information relating to Judy's Hut in the Inventory includes:

<i>Description</i>	<ul style="list-style-type: none"> • Constructed around 1950s • Coastal bushland setting, • Located close to Inlet; • One of a group of simple cottages; • Small rustic cottage; • Timber frame with weatherboard cladding; • Gabled roof – corrugated iron, and; • Corrugated iron extensions.
<i>Condition</i>	<i>Fair</i>
<i>Integrity/Authenticity</i>	<i>Fair</i>
<i>Construction Materials</i>	<i>Walls: Timber and metal Roof: Metal</i>
Significance	
<i>Historic Theme</i>	<i>Occupations (in this case, commercial fishing)</i>

<i>Category Significance</i>	of	<i>Historic, Representativeness and Aesthetic</i>
<i>Management Category</i>		<i>C (Retain and conserve if possible: endeavour to conserve the significance of the place through the provisions of the Shire of Manjimup Town Planning Scheme; a more detailed Heritage Assessment may be required prior to approval being given for any major redevelopment or demolition; photographically record the place prior to any major redevelopment or demolition.)</i>

A selection of historic newspaper articles have been compiled and are included in Appendix C.

3.8 Commercial Fishing

Thirteen estuaries and inlets located between Cape Beaufort and the WA/SA border (including Broke Inlet) are open to commercial fishing as part of the South Coast Estuarine (Interim) Managed Fishery (SCEF). Permits are managed by the Department of Fisheries under the South Coast Estuarine Fishery (Interim) Management Plan (2001). The SCEF is a multi-species fishery targeting many finfish species, the main fishing methods include gillnet and haul net. The main target species are cobbler, King George whiting, sea mullet, Australian herring and black bream. Catch and effort in the fishery is managed by input controls such as limited entry, equipment restrictions and spatial and temporal restrictions. Transferability of permits is limited.

There are currently 24 licences for this fishery and licence holders are able to fish any of the inlets or estuaries during prescribed times. In real terms approximately four operators currently fish commercially out of Broke Inlet, with the main access being via Reserve 19787 and the boat launching area in the adjacent D'Entrecasteaux National Park.

3.9 Squatters Shacks

Reserve 19787 contains 13 squatter shacks which form an important part of the history and fabric of Reserve 19787. The shacks are in variable condition, without proper effluent disposal systems and do not have approval from the Shire of Manjimup (either for the structures or to occupy the area).

The presence of squatter shacks at the site is inconsistent with the Western Australian State Government Squatters Policy 1999 (see Appendix A). The Policy seeks to control the establishment of new unlawful dwellings (squatter shacks) on coastal Crown land and facilitate the removal of existing dwellings (shacks) over a six year period.

The State Government has recognised that professional fishers merit an exemption from the Policy and are generally permitted to continue to operate from the shack areas. However, formalised tenure to a fisherman's shack will only be granted in the form of a lease in conjunction with fishing licences under the control of Department of Fisheries (DOF) and subject to conditions laid down by DOF. Leasing of sites for professional fisher's shacks are generally granted and administered by local government with variations to be subject to negotiation between local government and the Department for Planning and Infrastructure. There are at least two shacks that are occupied by commercial fishers.

The shacks:

- Take up most of the usable cleared space in Reserve 19787 and leave little room for day visitors or campers.
- Do not have any building or effluent disposal approvals.

- Have individual internal and external fire places of various designs that significantly increase the potential threat from fire in Reserve 19787.

The Shire has previously sought the power to lease land within Reserve 19787 to allow for better management of the squatters shacks (including collecting lease fees for management of the site and to have more control over buildings and other activities relating to the squatters). However, the State Government declined to grant the power to lease as it would be inconsistent with the Squatters Policy 1999.

The location and description of squatter shacks is provided in Table 1.

3.9.1 Effluent Disposal

In Western Australia, effluent disposal for areas that do not have reticulated sewerage is guided by the Draft Country Sewerage Policy 1999. The objectives of this policy are to protect public health, water supplies and the environment. The Policy addresses the use of approved effluent systems (not long drop toilets), but is a useful guide for appropriate setbacks from sensitive environments (in this case, Broke Inlet). For effluent disposal in environmentally sensitive areas (in this case within the notional 1km capture zone of an estuary i.e. Broke Inlet) site requirements for sandy soils with a low ability to retain nutrients include:

- An effluent system approved by the Health Department WA;
- A 100m setback from the water body at its highest level;
- A 2m vertical separation above the highest known water table; and
- A density of 1 system per hectare.



Photo 3: an example of the current effluent disposal systems within Reserve 19787.

The current effluent disposal systems used in Reserve 19787 are unable to meet these criteria. There are currently no approved effluent disposal systems in operation at Reserve 19787. Each shack has a (locked) long drop toilet, most of which are located on the sand dune behind the shacks (Figure 2). Elevations of the long drop toilets are likely to be between 1 and 5m AHD and may not meet the 2m vertical separation from ground water requirement. Distances from the toilets to the average high water mark of the Broke Inlet ranges from 80m (Shack 1) to 140m (Shack 12). This does not account for the highest possible water level in the inlet and was based on aerial photography from 2007. Grey water

(washing water) is also likely to be disposed of at the shacks. However, it is not obvious how this occurs.

From a health point of view, the fact that long drop toilets do not significantly treat the microbial content of the waste indicates that there is the risk of faecal bacteria contamination of the Broke Inlet. This poses a risk to human health, and the environmental health of the inlet (including fish caught in the inlet).

No toilet facilities are available for the general public, day visitors or campers, who presumably use the bush or foreshore for waste disposal.

3.9.2 Potable Water

Most of the squatters shacks collect water from their roof for storage in small water tanks. Some open drums under downpipes and gutters were partially filled with water during the site inspection and contained mosquito larvae (possible vectors of Ross River Virus).

No potable water is available for visitors or campers.

3.10 Camping and Day Visitation

Visitors to Reserve 19787 include people from the towns of Pemberton, Northcliffe, Manjimup, Nannup and Walpole as well as those who travel from further afield to enjoy the opportunities and experiences offered by the whole region (Carlsen and Wood 2004).

Anecdotal evidence suggests that when visitors arrive at Reserve 19787, they are unclear about land tenure (i.e. is the area privately owned or open to the public) and where they are able to go or camp. Several people have indicated that they felt they were trespassing, or unwelcome at the site when the shacks were inhabited. There is also confusion regarding the relationship between the freehold land and the adjacent Reserve as people cannot differentiate between them. Many people leave the site immediately and do not have the opportunity to appreciate the history or environmental values of the area. This is at odds with the tenure of the area as a Crown Reserve for camping, which should be available for the enjoyment of the wider community.

Because the shacks take up most of the accessible foreshore area, there is no designated place for people to park or camp. Visitors who do decide to stay in Reserve 19787 and who do not have access to stay in the shacks currently camp in and around the developed area. However, they do not have access to toilets or any other facilities.

Within the region there are limited formal camping areas. However, demand for informal camping sites is rapidly expanding due to increased usage. This can result in degradation of areas that are not well designed or managed. Impacts at these locations relate to toilet waste, rubbish disposal, firewood collection, vegetation removal, erosion and soil compaction. Most camping within the region is associated with some other form of recreation activity, such as bushwalking or fishing, and is located along the coast or various water bodies. The majority of camp sites have few facilities, with the exception of the Shannon townsite and the Shire of Manjimup's Windy Harbour townsite (CALM, 2005).

3.11 Boat Launching

Small boats such as dinghies can be launched from the sandy foreshore opposite the squatters shacks (4 wheel drive required). Larger boats are launched from a rocky area approximately 200m to the south which is located in the D'Entrecasteaux National Park.



Photo 4: Small boats are launched and moored on the beach in front of the shacks

4 DEVELOPMENT AND MANAGEMENT CONSIDERATIONS

4.1 Management Strategies

4.1.1 Protection of Site Character

This Management Plan seeks to balance protection of Reserve 19787's natural values and amenity, while providing for a range of traditional and recreational uses. During the preparation of this Plan, it was evident that some stakeholders would like to see the character of the squatters shacks retained in Reserve 19787, while others noted that it was inequitable to retain the shacks for the enjoyment of only a few people. However, all stakeholders were unanimous in their view that the future management of Reserve 19787 should be consistent with low key passive uses, retention of natural values and available for the whole community to enjoy.

Recommendation:

- Retain the 'low key' character of the site with allowances for sustainable use and enjoyment by the whole community.

4.1.2 Consultation and integration with surrounding land uses

To assist in the compilation of this Management Plan, meetings were held with various interested parties, including DEC officers, an Indigenous facilitator, commercial fishermen, adjacent freehold landowners, Councillors and Shire of Manjimup officers. These meetings were held to inform the preparation of the Draft Management Plan and were not intended to replace a public consultation process which will discuss the merits of the Draft Management Plan.

DEC officers were able to provide information about the ecological values of Reserve 19787, many of which are shared with the surrounding D'Entrecasteaux National Park. The DEC recommended that management strategies employed in Reserve 19787 should complement and support the management strategies employed on the surrounding lands (National Park and freehold land). The DEC has interests in the management of access, fire and disease management. In terms of specific suggestions, the DEC is interested in providing input on any camping area design that is developed.

Engagement of Indigenous people in the preparation and implementation of this Management Plan will be an important component in the recognition of natural and historic heritage. The South West Aboriginal Land and Sea Council should be notified of any new development or proposals on Reserve 19787 and resulting advice should be duly considered for incorporation in the final Management Plan. Broke Inlet is likely to have been a significant 'travel line' for Aboriginal people and an ethnographic survey of the site could potentially provide a wealth of information about the values of the area and be a basis for interpretation. It is suggested that any earthmoving activities on site be monitored by an Indigenous representative and/or personnel experienced in archaeological matters.

An electronic data base search of the adjoining UCL performed by the DPI indicated that no Native Title extinguishing tenure has been found. This means that before any proposed activity on this land is undertaken, notification of Native Title claimants must be undertaken to ensure a negotiation process. These processes can be lengthy and expensive and would require a heritage survey to be undertaken. This Management Plan does not recommend any activity or disturbance of the UCL, other than clarification of the tenure of the access road that crosses the UCL.

Commercial fishermen believe that the fishery in the Inlet remains a viable industry, although commercial fishing activity has been declining since 1992 (Brown *et al*, 2005). The Fisherman would like to formalise their living arrangements (shacks) to ensure ongoing access to the Inlet.

Surrounding landowners have an interest in the management of fire risk and how visitors are informed and directed. Landowners noted that visitors to Reserve 19787 often mistake the private land for public land and trespass for camping purposes. The protection of life and property is also a significant consideration, especially for fire management.

Shire of Manjimup Councillors and staff made the following suggestions and observations:

- That road access through UCL needs to be addressed;
- That Acid Sulfate Soils are likely to be present on the site and that risks would need to be quantified if any development was proposed (e.g. significant excavation or groundwater level changes);
- Interpretive signage is needed;
- That the Management Plan needs to be consistent with Augusta Walpole Coastal Strategy (WAPC, 2007);
- Some Councillors would like to see a power to lease on Reserve 19787, similar to Windy Harbour;
- Most Councillors support low key camping as the main use of Reserve 19787;
- All Councillors supported the continued management of Reserve 19787 by the Shire of Manjimup in preference to its incorporation into the surrounding National Park;
- Councillors support sustainable use of Reserve 19787 in line with previous activities (commercial and recreational fishing, boat launching and camping);
- That there is a need to preserve heritage and communicate historical information;
- Some Councillors supported the retention of the squatters shacks, while others supported removal of the shacks;
- Recognition that car parking for day use is needed;
- One Councillor suggested that a fire break and/or fence line be installed around Reserve 19787 boundary; and
- That a cooperative partnership with DEC is needed.

To ensure that the management actions employed within Reserve 19787 area successful the following recommendations are made:

Recommendations:

- Form a steering group with representatives from the Shire of Manjimup, DEC, freehold landowners, squatters shack residents, commercial fishermen, indigenous representatives and the general public to guide the future management of Reserve 19787.
- Consult with DEC regarding management actions that relate to biodiversity, access and fire issues.
- Notify and consult the South West Aboriginal Land and Sea Council regarding new development or proposals on Reserve 19787 and consider resulting advice for incorporation in the final Management Plan.
- Involve Indigenous representatives in the monitoring of any earthmoving activities on site and engage a suitably qualified archaeologist should cultural material be found.

4.2 Squatters Shacks

Reserve 19787 contains 13 squatter's shacks which form an important part of the history and fabric of the Reserve. The shacks are in variable condition, without proper effluent disposal systems and do not have approval from the Shire of Manjimup (either for the structures or to occupy the area). The presence of squatter's shacks at the site is also inconsistent with the *Western Australian State Government Squatters Policy 1999* (see Appendix A).

Some of the shack residents play an important caretaker role and often assist in the maintenance of Reserve 19787 by collecting and removing rubbish. There is also anecdotal evidence that some shack residents monopolise Reserve 19787 and contribute to damage to the area (e.g. by indiscriminate use of tracks for 4 Wheel Drive and motorbike use).

Engagement of stakeholders during the preparation of this Management Plan indicated that some people would prefer that:

- the shacks be retained without change;
- the shacks be removed and the resulting area used for public camping and parking;
- some of the shacks be retained for use by bone fide commercial fisherman with current leases;
- the shacks be assessed for partial retention depending on soundness and heritage values as open shelters for use by the public; and
- A caretaker's residence should be conditionally retained to allow for supervision and to facilitate management functions in Reserve 19787.

The final decision in this matter lies with the Shire of Manjimup and the community. However, the balance of information collected during this study indicates that:

- The retention of the shacks is inconsistent with the *Western Australian State Government Squatters Policy 1999*;
- The 'power to lease' the shacks to occupiers is not currently available to the Shire of Manjimup under the State Government policy framework. This limits the Shire's ability to control the standard of the buildings and effluent disposal;
- The shacks are unauthorised buildings with substandard effluent disposal systems that are too close to Broke Inlet and may pose a public safety and health risk; and
- The presence of the shacks prevents the broader public from using Reserve 19787 for its designated purpose of 'camping'.

A possible process for assessing and rationalising the squatters shacks is included in Appendix D.

Information collected about the occupiers of the squatters shacks has been provided to the Shire of Manjimup to assist in contacting these stakeholders.

Recommendations:

- The Shire of Manjimup's primary objective is to obtain the 'power to lease' Reserve 19787. Liaison with the Department of Regional Development and Lands (State Land Division) will be needed in this matter.
- Open dialogue with the occupiers of the squatter shacks in order to initiate a planned course of action for ongoing management of the structures.

- If the 'power to lease' the squatters shacks for the long term is not granted, the Shire of Manjimup should consider applying to the Department of Regional Development and Lands for a 6 year lease which will incorporate the staged removal of the squatters shacks.
- If the 'power to lease' is not available that the Shire of Manjimup investigate the appropriateness of retaining elements of a shack or shacks for use as a caretakers residence, general public use and/or shelter. This would require an audit of building standards.
- Approach the Department of Regional Development and Lands regarding the possible creation of leases for shacks that are under the bone fide care and control of commercial fishermen with current leases (as supported by the State Squatters Shack Policy, 1999).
- Carry out audits relating to effluent disposal and general safety of the shacks.

4.3 Indigenous and European Heritage Value

The Camfield Reserve has a rich heritage that could be interpreted on the site, adding value to the experience of visitors. Interpretation is addressed in Section 4.5.

4.4 Recreation and Tourism

Reserve 19787 is used primarily as a base for either recreational or commercial fishing within the Broke Inlet. Other uses of Reserve 19787 include camping, 4 wheel driving, bird watching, canoeing, swimming and other nature based activities all with greatly varied levels of impact on Reserve 19787. Information provided by the DEC regarding the surrounding National Parks indicates that the demand for camping areas within the region is increasing (CALM, 2005).

Despite being designated as a camping reserve there are no formal camping or day use facilities at the site. There are limited suitable areas for such facilities due to the presence of the squatters shacks which monopolise the foreshore area of Reserve 19787.

The provision of camping and day use infrastructure is recommended in order to allow sustainable use of Reserve 19787 without impacting on its natural values. The most suitable area for the development of a camping and day use area is where the squatter shacks are currently located. If some or all of the squatter shacks are removed it is recommended that approximately 10 camping sites be incorporated, with an area for day parking, picnic facilities and interpretational signage (Figure 5).

Should the shacks be retained, or an additional camping area required, then a 100m by 100m bushland area adjacent to the access road, east of the shacks may be suitable for development (Figure 5). Development of this area would require more site specific investigation and planning. However, the incorporation of a loop track to support approximately 10 camping sites may be possible. A concept plan is shown in Figure 5. The vegetation in this area is dense Marri forest and the site would require careful planning and design to minimise native vegetation removal. In addition, removal of vegetation would require a permit under the *Environmental Protection Act 1986*, unless the activity is subject to an exemption (e.g. Shire of Manjimup Purpose Permit for vegetation clearing or an exemption under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*). Additionally, the site would require an assessment of potential overhead hazards (tree branches).

Infrastructure for low key camping would ideally include:

- A composting (self contained) style of toilet to ensure protection of the groundwater and waters of the Broke Inlet. This structure should provide access for people with disabilities (Priority 1).

- Delineation of camping areas using bollards and logs to ensure that camping does not encroach on the natural values of Reserve 19787 (Priority 2).
- Picnic tables (Priority 3).

It is not considered that potable water needs to be provided at the site for low key camping, although a water tank could be incorporated into the composting toilet design.

Recommendations:

- If squatter shacks are retained or an additional camping area is required, investigate the development of a 100m by 100m area of the Marri forest to the east of the coastal dune and shacks.
- If squatter shacks are removed- use the resulting area for incorporating a delineated camping area, day use parking, picnic area and interpretation.
- Provide basic infrastructure to support sustainable use of Reserve 19787 including:
 - A composting toilet,
 - Delineation of camping and day use areas, and
 - Furniture such as picnic tables.

4.5 Education, Interpretation and Signage

Education and interpretation is an important tool for developing awareness, creating understanding and gaining support for the sustainable management of a site. Understanding and appreciation is essential for the success of any management initiative implemented within Reserve 19787, especially given the remoteness of the site. An effective interpretation program will identify the values within Reserve 19787 to visitors and provide education regarding the benefits and methods of preserving these values.

It is suggested that an interpretive plan be developed for Reserve 19787 which may include information regarding:

- Design elements of signage and structures;
- Instructions for sustainable use of the area (e.g. take your rubbish home – no bins provided, Please use delineated areas for access, parking and camping to protect vegetation, No fires – please use camp stoves);
- Historical information; and
- The values of Broke Inlet and its surrounds.

The scale and information included at the current sign at the entry to Reserve 19787 is not ideal in terms of engaging visitors. The current sign contains too much information to be read from a moving vehicle and is situated in a location where visitors are unlikely to spend time reading the sign. It is suggested that this sign be removed and replaced with a welcome sign. The welcome sign should contain the name of Reserve 19787 (Camfield), emergency contact details (Shire of Manjimup Ranger) and informational icons identifying suitable activities permitted within Reserve 19787.

An interpretation shelter should be constructed in a high use area of Reserve 19787 (see Figure 5). The interpretive material needs to define the values of Reserve 19787, potential threats to those values and the management initiatives and behaviours that will minimise the impacts on the values. The interpretation shelter should be designed to blend in with the environment it is in and provide a positive story about the site.

Use of small, discreetly placed signs around Reserve 19787 to indicate specific facts and features including directional signage, Reserve facilities, access and restricted areas would be beneficial.

Potential subjects for signage and interpretation include:

- Information about acceptable activities in Reserve 19787;
- Historic information (Aboriginal and European history);
- Information about Broke Inlet; and
- Biodiversity values of the local area.

Traffic signs suggested for the site include:

- A sign at the start of Broke Inlet Road (off South Western Highway) stating that road may be rough.
- A 'Reduce Speed' sign on Broke Inlet Road at approach to Reserve (Figure 5).

Recommendations:

- Develop an Interpretive Signage Plan to design and locate signs that guide, educate and inform.
- Erect traffic signs to advise of possible rough road conditions and to reduce speed.



Photo 5: The current sign at the entrance to Reserve 19787

4.6 Entry, Access and Parking

Vehicle access to Reserve 19787 is currently via Broke Inlet Road (formed gravel road) from the South Western Highway. A track across UCL provides access to Reserve 19787 and foreshore area (Figure 2). Advice from the DPI has indicated that it will be possible to incorporate this track into the existing road reserve via a road widening and to use the 'non-extinguishment principle' should native title be seen as an issue. Should the Shire of Manjimup concur with this action it shall be required to liaise with the DPI.

From the start of the foreshore area, the narrow track provides access to the squatters shacks. This track is boggy in places and not suitable for 2 Wheel Drives. The track does not allow for easy turning of trailers.

From the foreshore track, there are several boggy, eroded and undelineated tracks which provide access to the Broke Inlet at various locations. The numerous access tracks to the beach are causing

damage to the foreshore vegetation between the Inlet and the shacks. Access tracks between the shacks and the Broke Inlet require rationalisation. One access track should be formalised and located away from priority flora and moisture gaining sites and the other access tracks should be closed and rehabilitated.

There is no clearly defined parking area for visitors which often creates the impression that the area is private land. The lack of demarcation increases the risk of vehicles parking on vegetation and in other sensitive areas. There is a need for a parking area for day visitors to Reserve 19787.

Access is restricted to the north of Reserve 19787 by two large vehicle gates (Figure 2). At the time of site visits by Coffey Environments staff, these gates were unlocked and the tracks beyond the gates showed evidence of recent use. There was also evidence of 4WD and ATV access along the beach to the north of the shacks. This is impacting on the foreshore and associated vegetation. In addition, there is the risk of impacting on populations of Priority Flora. Vehicles that cross over creeklines and areas of moist soils may spread dieback disease. The gates need to be locked to ensure they are effective. If vehicles are still accessing the Inlet foreshore via the other tracks, it is recommended that a row of pine rails be installed as shown on Figure 5, with signing advising that vehicles are not allowed.

There are currently no defined pedestrian access paths and people have to share access ways with vehicles. Clearly defined pedestrian paths need to be established to separate pedestrians from vehicles and to direct pedestrian access to facilities and features (including the inlet) (Figure 5). Pedestrian access paths should be designed to avoid sensitive areas and hardened with compacted limestone gravel to reduce the impact of high use on the environment. There are no dedicated walk trails in Reserve 19787. However, it appears that people are most likely to walk along the Inlet foreshore. It is not recommended that additional walk trails be created in Reserve 19787, due to the risk of spreading dieback.

If the shacks are to be retained then the pedestrian access between the shacks and the inlet should be formalised so that access can be gained without extensive impact on the existing vegetation.

Recommendations:

- Liaise with the Department of Regional Development and Lands (State Land Division) in order to widen the road reserve to incorporate the entry track that crosses over UCL from Broke Inlet Road.
- Stabilise foreshore track with limestone rubble or similar dieback free material.
- Create turnaround area on foreshore track.
- Rationalise vehicle tracks that lead to Broke Inlet Beach through use of bollards. Rehabilitate closed tracks.
- Lock existing gates to prevent access to Inlet foreshore. If this does not prevent access, additional signage and bollards may be required.
- Delineate pedestrian path to beach with pine post and rail structures and harden surface with limestone gravel.



Photo 6: Vehicle access gates within Reserve 19787
shacks



Photo 7: Vehicle tracks across wet areas in front of
shacks

4.7 Flora and Fauna Management

Flora and fauna on Reserve 19787 are described in Section 3.5 but of significant note is the existence of a population of Priority Flora *Hemiandras australis* (a shrub) which is located between the shacks and Broke Inlet. This population is under direct threat from vehicle movement and foot traffic caused by people accessing the inlet from the shacks. There is also a variety of other significant native species that are likely to be present in Reserve 19787.

Vehicle and pedestrian traffic need to be redirected away from the population through the provision of a formalised access track to the inlet and the closure of unsuitable access tracks.

Vehicle access to the areas of Reserve 19787 beyond the shacks must remain restricted with particular care to keep vehicles and machinery away from the elevated dunes to the north, which are likely to be free from various vegetative diseases.

Shire officers need to liaise with the DEC to ensure that flora and fauna management within Reserve 19787 is consistent with management practices applied within the adjacent National Park.

Recommendations:

- Liaise with the DEC to determine most effective way to protect significant flora and fauna.
- Control vehicle access on the Inlet foreshore to prevent damage to significant flora species.

4.8 Invasive Species

4.8.1 Domestic Animals

The Shire of Manjimup does not have a local by-law that restricts domesticated animals entering Shire Reserves. The only restriction on domestic animals is via the Shires' *Dogs Local Law 2004* which states restrictions on dogs in various reserves across the Shire but does not include Reserve 19787.

Recommendations:

- Educate visitors as part of an Interpretive Signage Plan, to request that pets are under control at all times and that excreta is removed.

4.8.2 Feral Animals

Feral animal populations within Reserve 19787 are likely to be consistent with those found within the surrounding National Parks. Certain species such as cats and pigs are likely to have a large range and will traverse the various land tenures within the area while other species such as rabbits are likely to have populations that may be entirely contained within Reserve 19787. The most common management options for the control of feral animals include direct eradication methods by either baiting, shooting or trapping.

Baiting cannot be conducted on Reserve 19787 as domestic animals are permitted in Reserve 19787 and they would potentially be impacted by a baiting program. Trapping or shooting programs within Reserve 19787 would only have a controlling effect if conducted in unison with similar programs on adjoining lands.

Shire officers responsible for the management of feral animals need to liaise with the DEC and other adjoining land holders to ensure that any feral animal programs are consistent with activities on adjoining lands.

Recommendations:

- Liaise with DEC and adjacent landowners to ensure collaboration in the control of feral animals.

4.8.3 Weed Control

The weeds within Reserve 19787 are largely associated with the shacks and have most likely been introduced as garden species. There is a potential for further weed spread throughout Reserve 19787 following wild fire suppression activities. Of the nine weed species listed in section 3.5.3.2, five are listed in the Shire of Manjimup Weed Strategy and the control of these weeds should be conducted in accordance with the objectives and methods outlined within this Strategy.

Additional information on the control of the weed species specific to Reserve 19787 is provided in Appendix E.

If other weeds are identified they should be treated as described in *Southern Weeds and Their Control* (Moore and Wheeler, 2008)

To prevent further introduction of weeds it is suggested that local native species be used for any rehabilitation or landscaping programs.

Recommendations:

- Conduct a weed monitoring and eradication program around the shacks.
- If the shacks are removed, eradication of the weeds associated with shacks should be specified as a task associated with the removal.
- Any post fire rehabilitation works will be required to ensure the eradication of weeds that may propagate after fire. Post fire weed control should involve manual and chemical controls of weed propagules along newly constructed fire breaks in accordance with the methods prescribed in the Shire of Manjimup Weed Strategy.

4.8.4 Dieback

Phytophthora dieback has been identified across the majority of Reserve 19787 with only small areas of elevated dunes believed to be free of the disease. The largest issue for the management of dieback is

restricting the spread of the disease to the uninfested areas within Reserve 19787, adjoining reserves and National Park (including other areas of the Broke Inlet foreshore). The mechanisms for the potential spread of the disease from Reserve 19787 includes movement of infested soil on vehicles and footwear, road maintenance activities along Broke Inlet Road and the transport of infested soil and water via transportation across water in boats.

The majority of soils at Reserve 19787 are sands, which due to physical characteristics have a low capability of adhering to vehicles and footwear. However there are areas of moist soils with high organic matter content which will adhere readily to vehicles and footwear and in some locations these soils are on vehicle tracks used by conventional 4WDs and ATV's.

Broke Inlet Road is a formed gravel road and is likely to be the original vector of dieback into the area.

It is important that vehicle movements are restricted from entering areas that may be infested with dieback. This means that vehicles should not be able to access Reserve 19787 beyond the foreshore where the squatters shacks are located.

Recommendations:

- Maintain current restrictions of vehicle access within the Reserve, so vehicles can only access the shack area and the boat ramp in the adjacent National Park.
- Include dieback information in an overall Interpretive Signage Plan.

4.9 Visitor Safety

The main visitor safety issues identified at Reserve 19787 include:

- Fire,
- The squatter shack structures, and;
- Possible diseases carried by mosquitoes (e.g. Ross River).

The presence of the shacks in Reserve 19787 poses a liability for the Shire as the shacks are un-approved structures and do not comply with the relevant building codes. The shacks are of unknown structural integrity and most have waste water and effluent disposal systems that could potentially contaminate the waters of the Broke Inlet where people are most likely to swim and fish.

Some of the shacks have rainwater collection systems, various associated infrastructure and objects that catch and hold water, forming suitable mosquito breeding habitat. Provision of such habitat increases the risks of vectoring mosquito borne diseases such as Ross River Virus

The Shire of Manjimup needs to consider its liability should a visitor to Reserve 19787 be injured or become ill while staying in the shacks or in any manner that is directly related to the shacks. This risk assessment should form part of the Shire's framework when considering audits of the shacks.

Fire safety information detailing proposed burns, escape routes and refuge areas within Reserve 19787 should be incorporated into a central interpretation shelter.

Should a formalised camping and day use area be implemented, a visitor safety assessment should to be undertaken to assess overhead hazards such as tree branches.

Recommendations:

- Manage visitor risks associated with the squatter shacks, fire, mosquito borne disease and other matters.

- Consider regular ranger patrols or the development of a volunteer ranger system.

4.10 Fire Protection and Management

The South West region experiences a typical climate of cold wet winters and hot dry summers, resulting in potential high and extreme fire dangers for extended periods of the summer and autumn months. In these high fire risk periods fire can move at high speeds with significant intensities and pose severe risks to the preservation of property, resources and life. While some fires originate from natural ignition due to lightening strikes, the majority of fires are caused by human activities.

Reserve 19787 is bordered by the D'Entrecasteaux National Park to the north, east, west and south. As there are no maintained firebreaks around Reserve 19787, other than Broke Inlet Road, Reserve 19787 is incorporated in the DEC prescribed burn program for the D'Entrecasteaux National Park. It is **not** recommended that a firebreak be established around the perimeter of Reserve 19787 as it would only serve as a vector for unauthorised access, weeds and dieback spread. It is better to use existing roads and tracks strategically to address emergency access and fire fighting.

In the event of a wild fire, the only escape route from Reserve 19787 is Broke Inlet Road. However, if egress via Broke Inlet Road was not possible, the Broke Inlet itself would offer protection from a fire. There is a firebreak track to the north of the Shacks but this does not appear to be well maintained. There is no fire safety information at Reserve 19787.

The shacks pose a considerable risk to fire safety within Reserve 19787 as most shacks have both internal and external fire places and wood fired hot water systems in various condition and suitability for use in high fire risk areas. Some of the huts are situated in dense vegetation and have a large build up of dry fuels around the shacks and on the roofs.



Photo 8: Heavy fuel loading on and surrounding one of the shacks

Recommendations:

- Liaise with the DEC regarding the proposed prescribed burn operations that will incorporate Reserve 19787.
- Perform pre- fire suppression activities including the maintenance of fire breaks around the shacks (if retained) and camping area.
- Prepare a plan for post fire rehabilitation and include contingencies for track closures and rehabilitation of new fire line tracks constructed during suppression.
- Include fire response and safety information in an Interpretive Signage Plan (including escape routes and refuge zones).

- Carry out a fire safety audit to determine the suitability of wood fire based heating systems used in shacks.

4.11 Rehabilitation

Should the Shire of Manjimup decide to remove some or all of the shacks then there will be an opportunity for the implementation of a post shack rehabilitation program to control weeds and clean up existing waste disposal facilities (including the long the drop toilets). Removal of shacks and associated infrastructure will require the removal of various materials including asbestos, chemicals oils and fuels. Such materials will need to be assessed for appropriate disposal at a suitable waste disposal facility to ensure no environmental impacts result. All waste materials should be assessed against the criteria detailed in the Landfill Waste Classification and Waste Definitions 1996 (as amended) (CALM, 2005).

Recommendations:

- If the shacks are removed, prepare a rehabilitation plan to guide a cleanup of the area.
- Use local native species in any re-vegetation works in the Reserve.

5 SUMMARY AND CONCLUSION

Reserve 19787 shares the same natural values of the surrounding D'Entrecasteaux National Park with additional cultural and historical value to the local European and Aboriginal communities. In order to preserve these values it is important to maintain a management strategy that is both consistent with the management of the surrounding National Park, while also providing for the designated land use of the reserve which is camping and recreation.

There are currently no facilities that are available to all visitors for day use or camping and the recreational activities are un-controlled and a cause of potential threat to the natural values within the reserve. There are 13 shacks that occupy the majority of accessible land that could be available to campers. These shacks are all locked and available for use by only select members of the community. Each shack also has long drop toilet facilities and un-defined waste water disposal systems. None of the shack and associated outbuildings are approved structures nor do they satisfy any guidelines for effluent disposal. The Shire of Manjimup would like to secure the 'power to lease' the Reserve. However, without any certainty of the outcome of this process, it is recommended that the Shire adopts a position regarding the interim and ongoing management of the shacks. This Management Plan provides recommendations in the event of the retention or removal of the shacks.

With increasing populations in the surrounding towns and increased visitor numbers to surrounding areas, it is likely that Reserve 19787 will experience a steady increase in visitor numbers over the next ten years. In order to preserve the natural and cultural values within Reserve 19787 it is important that management identifies the potential impacts of increased visitation and takes suitable actions to mitigate these actions. The recommendations contained within this Management Plan should be enacted by the Shire of Manjimup through direct actions and the formation and enhancement of partnerships with the local community and other stakeholders, including the DEC.

There are numerous opportunities for external funding for projects identified within this Management Plan and the Shire of Manjimup would benefit from researching such opportunities to assist with the implementation of this plan.

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Tables

**Management Plan
Reserve 19787, Camfield, Broke Inlet
Shire of Manjimup**

TABLE 1: SQUATTER SHACKS DESCRIPTION AND LOCATION

(Shack occupants' details have been provided to Shire of Manjimup, where known).

Shack	Coordinates - Shack	Description	Coordinates - drop toilet	Distance - toilet from inlet (high water mark)	Photo reference.
Shack 1	50 450884E, 6136460N	Tin, timber	50 450923E, 6136466N	80m	Photo 1
Shack 2	50 450914E, 6136442N	Tin, timber	50 450932E, 6136446N	100m	Photo 2
Shack 3	50 450936E, 6136390N	Tin, timber, asbestos	50 450951E, 6136403N	110m	Photo 3
Shack 4	50 450944E, 6136378N	Tin, timber, asbestos fencing	50 450944E, 6136378N	95m	Photo 4
Shack 5	50 450949E, 6136359N		50 450965E, 6136365N	105m	Photo 5
Shack 6	50 450955E, 6136347N	Timber, tin	50 450966E, 6136341N	100m	Photo 6
Shack 7	50 450960E, 6136330N	Tin, timber and caravan	50 450970E, 6136320N	100m	Photo 7
Shack 8	50 450959E, 6136301N	Tin, timber	50 450977E, 6136301N (Generator shed – 50 450975E, 6136307N- signs of diesel/oil residue)	100m	Photo 8
Shack 9	50 450961E, 6136287N	Timber, asbestos, fibro, tin	50 450977E, 6136283N	95m	Photo 9
Shack 10	50 450968E, 6136236N	Timber, tin	50 450984E, 6136230N	95m	Photo 10

Shack 11	50 450986E, 6136214N	Tin, timber	50 450994E, 6136208N	90m	Photo 11
Shack 12	50 451021E, 6136243N	Fibro, timber, tin	50 451026E, 6136251N	140m	Photo 12
Shack 13	50 451024E, 6136231N	Fibro, tin, timber	50 451015E, 6136215N	120m	Photo 13

All coordinates shown may have an error of +/- 10m

Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12

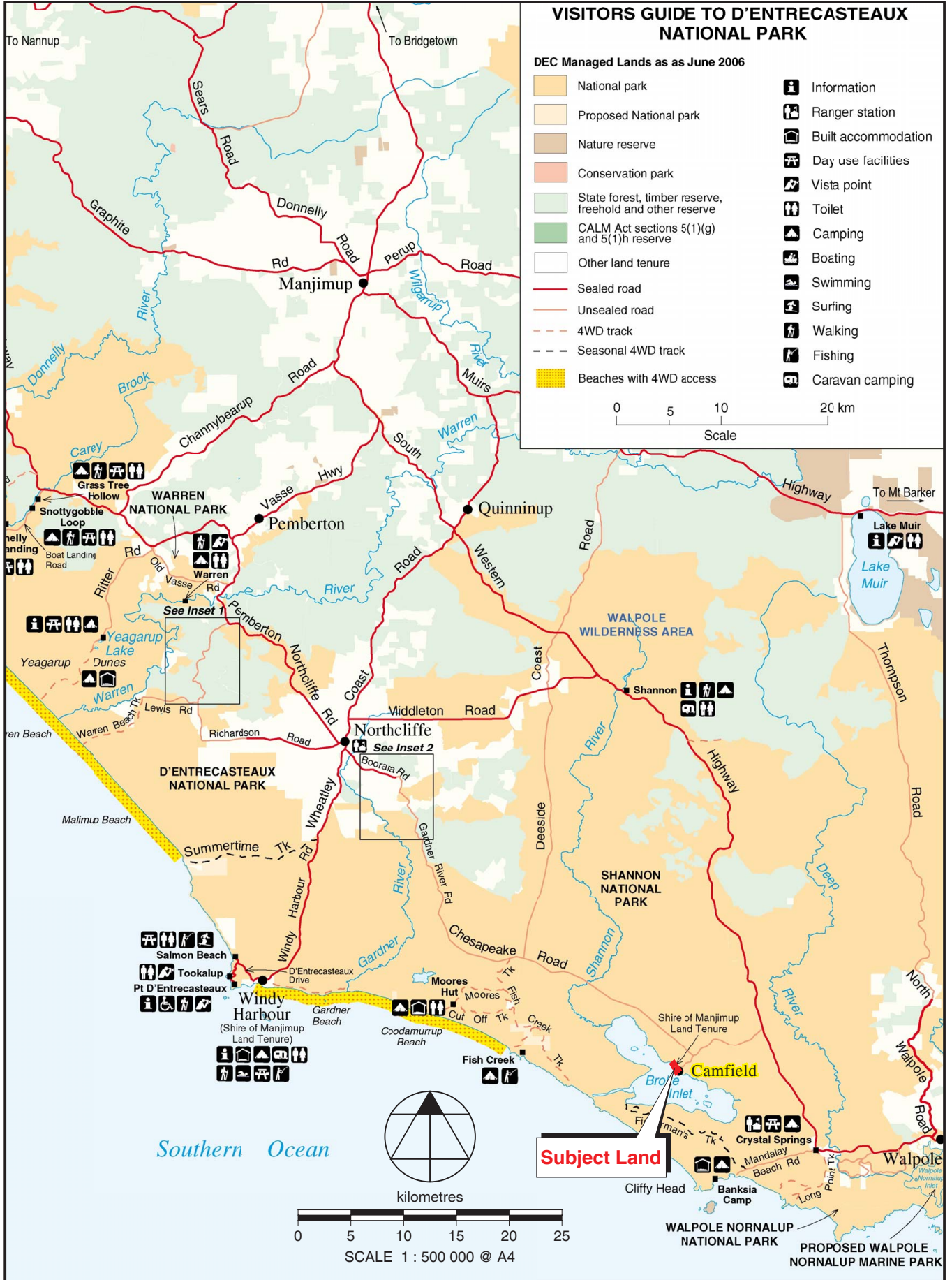


Photo 13



Figures

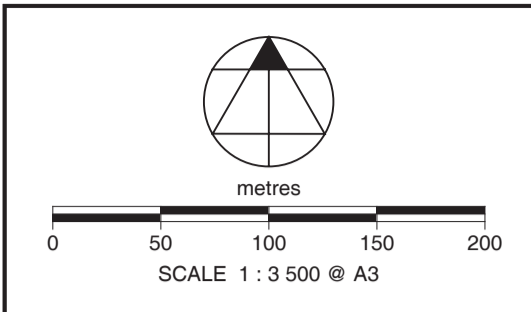
**Management Plan
Reserve 19787, Camfield, Broke Inlet
Shire of Manjimup**



SOURCE: Department of Environment and Conservation.

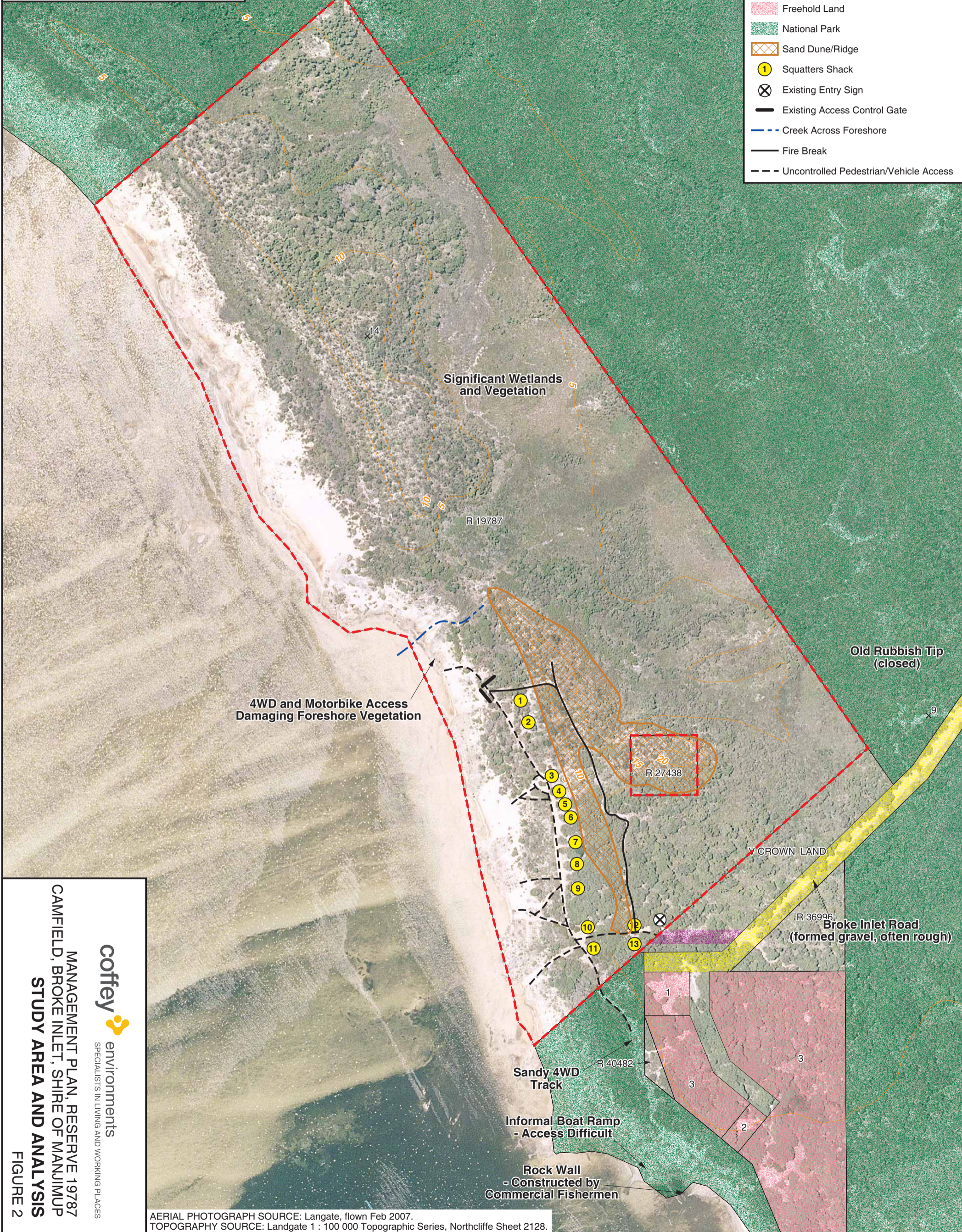
MANAGEMENT PLAN, RESERVE 19787
CAMFIELD, BROKE INLET, SHIRE OF MANJIMUP
REGIONAL LOCATION

FIGURE 1



LEGEND

- - - Subject Land Boundary
- Cadastral Boundary
- Topographic Contour (m AHD)
- x¹⁴ Spot Height (m AHD)
- Broke Inlet Road Reserve
- Acces Road Crosses over VCL
- Freehold Land
- National Park
- Sand Dune/Ridge
- 1 Squatters Shack
- X Existing Entry Sign
- Existing Access Control Gate
- Creek Across Foreshore
- Fire Break
- Uncontrolled Pedestrian/Vehicle Access



coffey environments
 SPECIALISTS IN LIVING AND WORKING PLACES
 MANAGEMENT PLAN, RESERVE 19787
 CAMFIELD, BROKE INLET, SHIRE OF MANJIMUP
 STUDY AREA AND ANALYSIS
 FIGURE 2

AERIAL PHOTOGRAPH SOURCE: Langate, flown Feb 2007.
 TOPOGRAPHY SOURCE: Landgate 1 : 100 000 Topographic Series, Northcliffe Sheet 2128.



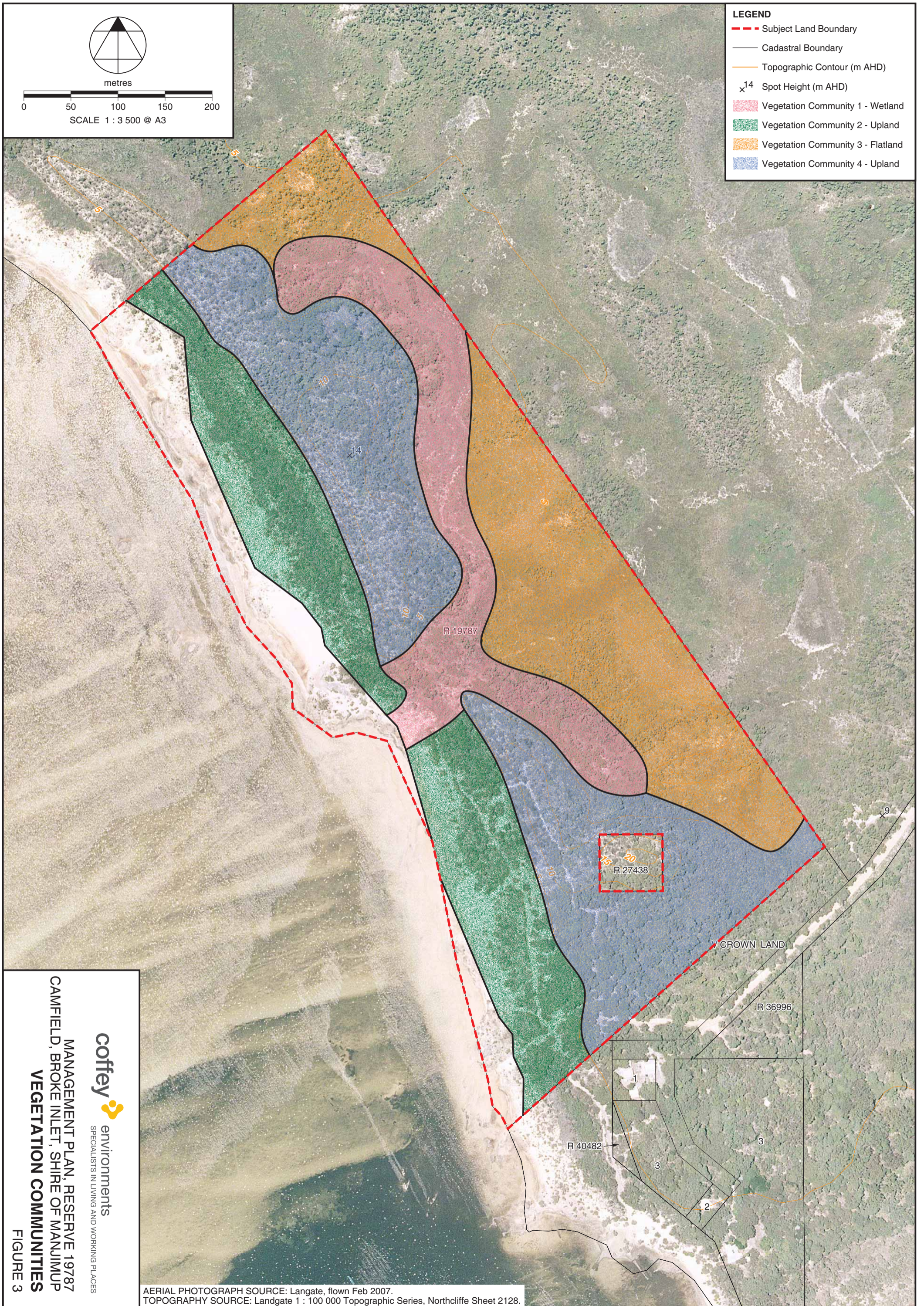
metres



SCALE 1 : 3 500 @ A3

LEGEND

- - - Subject Land Boundary
- Cadastral Boundary
- Topographic Contour (m AHD)
- x¹⁴ Spot Height (m AHD)
- Vegetation Community 1 - Wetland
- Vegetation Community 2 - Upland
- Vegetation Community 3 - Flatland
- Vegetation Community 4 - Upland



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MANAGEMENT PLAN, RESERVE 19787
CAMFIELD, BROKE INLET, SHIRE OF MANJIMUP
VEGETATION COMMUNITIES

FIGURE 3

AERIAL PHOTOGRAPH SOURCE: Langate, flown Feb 2007.
TOPOGRAPHY SOURCE: Landgate 1 : 100 000 Topographic Series, Northcliffe Sheet 2128.



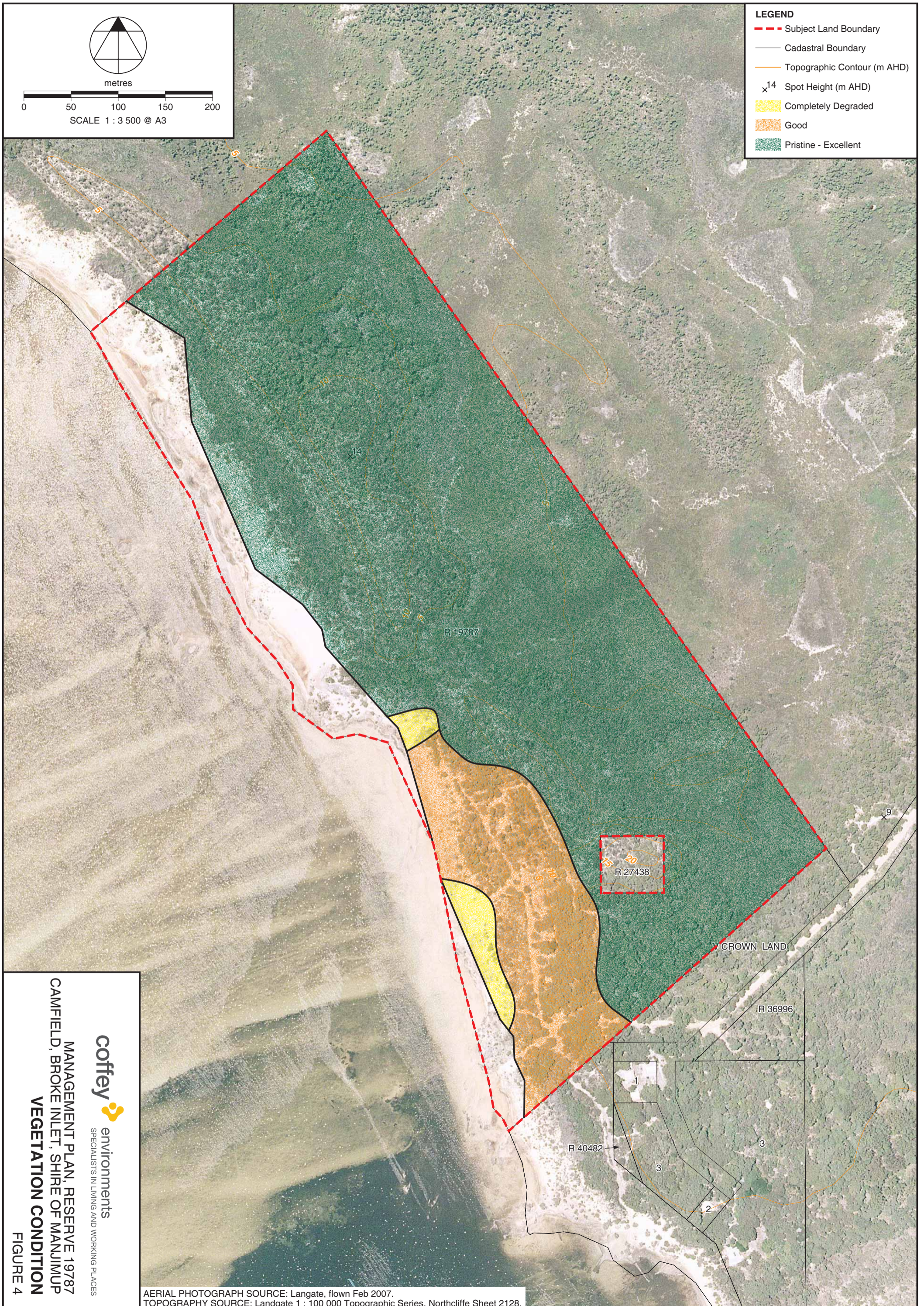
metres



SCALE 1 : 3 500 @ A3

LEGEND

- - - Subject Land Boundary
- Cadastral Boundary
- Topographic Contour (m AHD)
- ×14 Spot Height (m AHD)
- Completely Degraded
- Good
- Pristine - Excellent

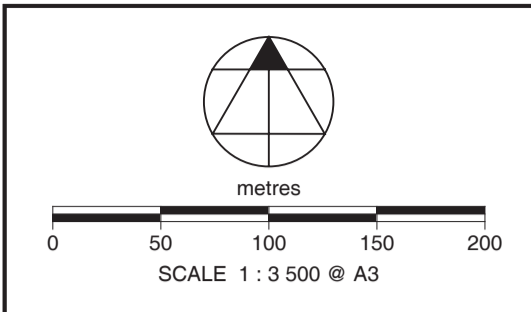


coffey environments
SPECIALISTS IN LIVING AND WORKING PLACES

MANAGEMENT PLAN, RESERVE 19787
CAMFIELD, BROKE INLET, SHIRE OF MANJIMUP
VEGETATION CONDITION

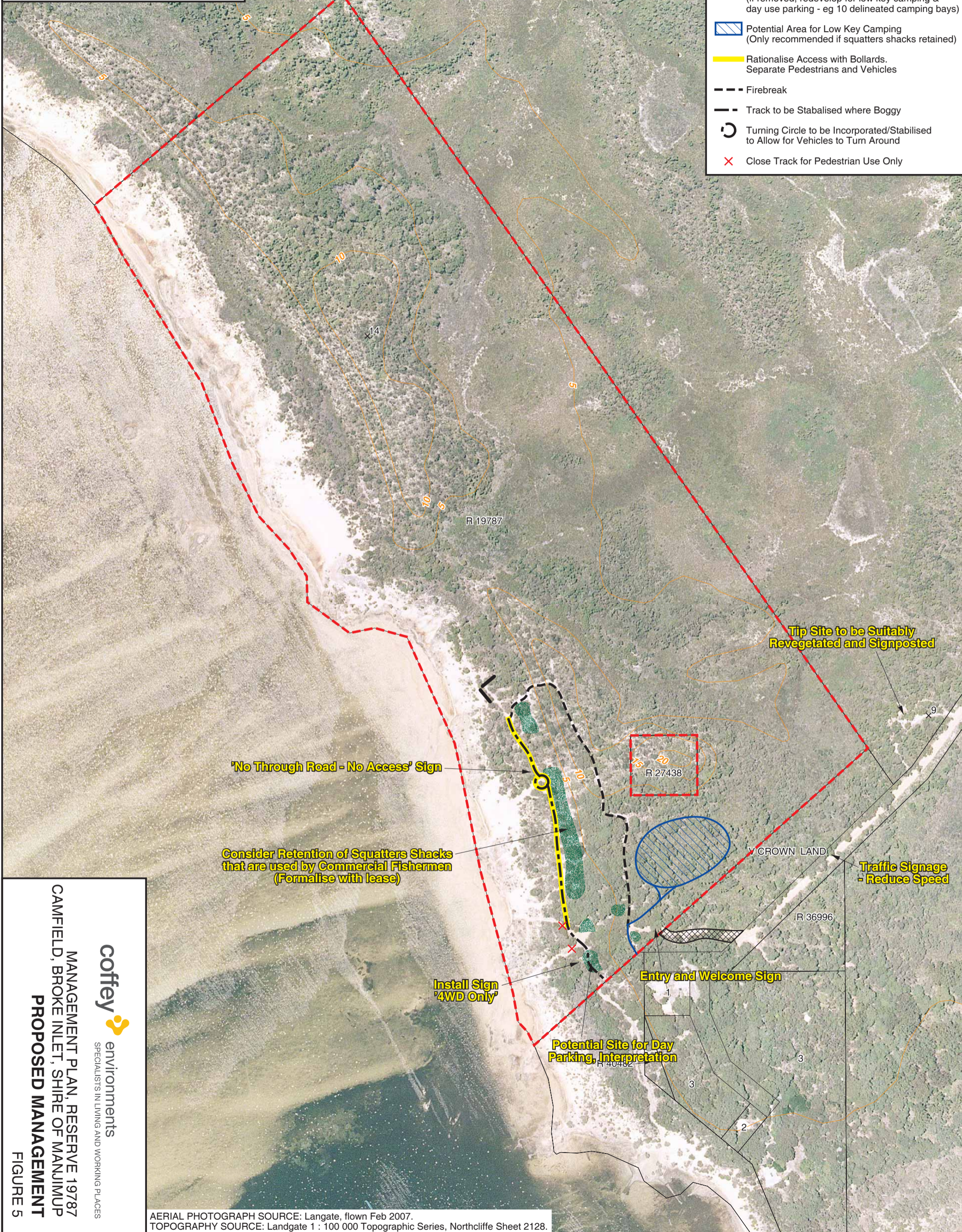
FIGURE 4

AERIAL PHOTOGRAPH SOURCE: Langate, flown Feb 2007.
TOPOGRAPHY SOURCE: Landgate 1 : 100 000 Topographic Series, Northcliffe Sheet 2128.



LEGEND

- - - Subject Land Boundary
- Cadastral Boundary
- Topographic Contour (m AHD)
- ×14 Spot Height (m AHD)
- Resolve Entry Track - Currently on VCL
- Existing Squatter Shacks (if removed, redevelop for low key camping & day use parking - eg 10 delineated camping bays)
- Potential Area for Low Key Camping (Only recommended if squatters shacks retained)
- Rationalise Access with Bollards. Separate Pedestrians and Vehicles
- - - Firebreak
- - - Track to be Stabilised where Boggy
- Turning Circle to be Incorporated/Stabilised to Allow for Vehicles to Turn Around
- × Close Track for Pedestrian Use Only



coffey environments
SPECIALISTS IN LIVING AND WORKING PLACES

**MANAGEMENT PLAN, RESERVE 19787
CAMFIELD, BROKE INLET, SHIRE OF MANJIMUP
PROPOSED MANAGEMENT
FIGURE 5**

AERIAL PHOTOGRAPH SOURCE: Langate, flown Feb 2007.
TOPOGRAPHY SOURCE: Landgate 1 : 100 000 Topographic Series, Northcliffe Sheet 2128.

Appendix A
*Western Australian State Government
Squatters Policy 1999*

**Management Plan
Reserve 19787, Camfield, Broke Inlet
Shire of Manjimup**

GOVERNMENT LAND POLICY MANUAL

General Area 12. LAW ENFORCEMENT & TENURE COMPLIANCE

Sub Heading 12.5 Removal of Unauthorised Structures

LAA Section No. 270 – 273 incl

File Number 1109/1963, 2003/1965

Policy Number 12.5.01.1

Status 4. Approved

Policy Title Illegal Occupation of Coastal Crown Land (Squatters)

LAA Priority 1. Essential

Policy Date 01/01/99

OBJECTIVE

To control the establishment of any new unlawful dwellings (squatter shacks) on coastal Crown land and facilitate the removal of existing dwellings (shacks) over a six-year period.

POLICY STATEMENT

i) PRINCIPLE

DOLA has participated in the formulation of an appropriate Statewide policy on squatters and is required to proceed in accordance with the Government's policy on squatters as adopted by Cabinet in 1989 and detailed more fully below.

The policy relates to unmanaged (unvested) Crown land and unmanaged (unvested) reserves. Bodies already holding a Management Order (vesting) of affected reserved land (e.g. local governments) may exercise delegated powers under Section 273 of the LAA, 1997 (Section 164B of the Land Act, 1933) to immediately remove squatters.

A Management Body (vestee) may nevertheless opt to proceed in accordance with the policy, and where that body has indicated an unwillingness to evict squatters, may be required to proceed along these policy lines.

Crown land may be placed under the care and control of (vested in) a management body to facilitate implementation of the policy guidelines through local management.

ii) POLICY

1. No new illegal shacks will be permitted on reserved or vacant Crown land along the State's coastline from the date of Cabinet's approval of this policy.
- 2.1 Existing owners of shacks on Crown land or unvested reserves will be permitted to remain for a period of 6 years provided that:
 - i) there are no extraneous circumstances in particular areas which require shacks to be removed sooner;

- ii) the shacks are not situated on reserved land that has been subject to a management plan under the CALM Act.

The 6 year period is to allow for the reasonable usage of existing investment while deterring extensive improvements or redevelopment. The 6 years will be calculated from the commencement date of arrangements for particular areas.

2.2 This 6 year tenancy is subject to:

- i) no services being provided by State or Local Government;
 - ii) the sites being left in a clean and tidy condition upon completion of occupancy and the cost of removal of the shack and rehabilitation of the site is being borne by the shack owner;
 - iii) no further clearing or making of access roads being undertaken;
 - iv) no transfer of shacks or occupancy rights being permitted;
 - v) no improvements or extensions apart from those sanctioned by the local authority for safety or health reasons being undertaken;
 - vi) State, Federal and Local Governments being indemnified against damage to property or persons resultant from the poor condition of the shacks;
 - vii) the payment of an annual fee to the Local Authority or other body managing the reserve or Crown land, which should cover progressive rehabilitation and management of shack areas;
 - viii) the land not being required for another purpose at an earlier time, in which case the owner(s) would be issued at the conclusion of the six-year period or at an earlier time.
3. The Government recognises that professional fishers merit an exemption from the policy and will be permitted to continue to operate from shack areas. However, formalised tenure to a fisherman's shack will only be granted in the form of a lease in conjunction with fishing licences under the control of Fisheries Western Australia and subject to conditions laid down by the Department. Leasing of sites for professional fisher's shacks to generally be granted and administered by local government with variations to be subject to negotiation between local government and the Department of Land Administration and/or consideration by the West Coast Working Group as part of the practical implementation.
4. Fishers' shacks should be of a reasonable standard as determined by the particular local authority. In using these coastal areas, fishers must have regard for the coastal environment. This should be monitored and regulated by the local authority.
5. This general policy will be further developed through the progressive examination of individual areas of the State by working groups generally comprised of local government and State government representatives. More detailed studies of particular areas will be undertaken in order to consider the tenure of particular coastal lands, the uses to which these areas will be put once squatters are removed and management programs considered appropriate.

Appendix B

Definition of Vegetation Condition Scales

**Management Plan
Reserve 19787, Camfield, Broke Inlet
Shire of Manjimup**

Appendix B: Definition of Vegetation Condition Scale

Condition scale used in BUSH FOREVER VOL 2, from Keighery BJ (1994)

Pristine (1)

Pristine or nearly so, no obvious signs of disturbance

Excellent (2)

Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.

Very Good (3)

Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.

Good (4)

Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.

Degraded (5)

Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.

Completely Degraded (6)

The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Reference:

Keighery, BJ (1994) Bushland Plant Survey. A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc), Nedlands, Western Australia

Appendix C
Historic Newspaper Articles (Courtesy of
John Rookley)

**Management Plan
Reserve 19787, Camfield, Broke Inlet
Shire of Manjimup**

SINCE 1862
IT'S BEEN

Howards

of BUNBURY

FOR EVERYTHING

Manjimup-Corn Times

OFFICIAL ORGAN OF THE W.A. TOBACCO GROWERS' ASSOCIATION (INCORPORATED)
Circulating in Manjimup, Pemberton, Northcliffe, Jardee, Walpole, Yanmah, No. 1 Mill, Palgarup, Nyamup,
Shannon River, Quinnsnap.

PUBLISHED EVERY WEDNESDAY MORNING.

Vol. XXVII—No. 48.

WEDNESDAY, SEPTEMBER 16, 1953.

Price 4d.

Orland

BRAND

That's the spirit

STRONG PROTESTS LODGED AGAINST LEASE AT BROKE'S INLET

Strong protests have been lodged with the Manjimup Road Board against the application, through the Lands Department, for a lease of a six-chain strip of land for a period of 10 years alongside Broke's Inlet.

Application had been lodged by Mr. F. T. West, of Balingup, who wished to erect week-end holiday cottages and a boatshed at the Inlet.

Mr. W. J. Rooney, whose news had been sought by the board, said that the area of the projected lease took in the existing camping area availed of by the holiday public and would shut off the only deep water channel. He thought that, if the lease were granted, it would deprive casual tourists of the opportunity to camp on the most desirable site, as not everyone would wish to occupy holiday cottages.

More emphatic was a letter from Mr. J. P. Rooney, secretary of the Warren Anglers and Camping Association, which protested against the granting of the lease on the grounds that it would swallow up the only few acres now given over to campers and would deprive visitors of the most desirable area for boating and swimming. The association urged the board to retain the area for use by the public.

Vice-chairman Sherrington said he was present at this well-attended and representative meeting of the association, which also asked for the sympathetic consideration of the board for repairs to the road into the Inlet. At the meeting it was said that Shannon residents would work a bulldozer free of charge if the road in was placed on the corridor survey.

Mr. Lock said that 29 members attended the meeting, to protest about the granting of the lease and with sympathisers in Pemberton and Northcliffe who patronise the Inlet. The figure today would probably be 129.

Mr. Doust said it appeared as though the site was the stumbling block and perhaps 10 acres somewhere else might be acceptable to the applicant.

Mr. Wiseman said the protest from the association was a clear-cut opinion of a cross section of ratepayers and the board had to be guided by that. The offer to help with the bulldozing of the road showed commendable enthusiasm and one too good to be passed up by the board.

19-8-53 Application For Camping Area At Broke's Inlet

Application has been made to the Lands Department by a resident of Balingup for an area of about nine acres of land at Broke's Inlet for a camping reserve. On this it is proposed to erect weekend cottages, camp sites and boatshed.

Location of the requested area was considered to be in close proximity to the 10 acres held by Mr. H. S. Clarke, well-known fisherman at the inlet. It is also believed to be the area now used by campers.

Inlet is some 66 miles south-east of Manjimup and reached by way of a tortuous seven-mile track leading from the main road. Inlet is one of the best fishing grounds on the south coast.

The board is seeking more information on the matter before replying to the Lands Department.

Finally the board decided that the Lands Department be advised it was against the application of the area sought, but had no objection to another suitable site being applied for.

BOARD AGAINST NET FISHING AT BROKE'S INLET

Members of the Manjimup Road Board have expressed amazement that they should remain ignorant of a decision by the Superintendent of Fisheries (Mr. A. J. Fraser), to open Broke's Inlet for net fishing from June 1 to October 31 for this, and the next two years.

Matter arose from comment by members that professional fisherman from southern centres were taking out huge quantities of fish in the winter months, and heavy transport vehicles were playing havoc with the roadway into the inlet.

It was stated that this had so deteriorated that a tractor and trailer was now being used by the fishermen to get their hauls out.

The news of the open season had been conveyed to the Warren Angling and Campers' Association by Mr. Fraser who said that open season would in no way have an adverse effect on the inlet as far as tourists were concerned, but the access to it by professional fishermen tided them over a time of the year when coastal regions were ruled out because of adverse weather.

The secretary of the board (Mr. Dunn) said he was quite ignorant of the decision made to open the inlet for three years.

Mr. Doust: It's more than a shame!

Mr. Sherrington said he agreed with the opinion of the members of the association that, if net fishing continued, there would be no necessity to close it in future years, fish would be completely depleted at the rate they were being taken out.

Mr. Wiseman said he was amazed and disappointed that such an action was carried out without at least obtaining an expression of opinion from the board. He subscribed to the strongest action to have the inlet closed against nets.

The board will raise strong protest, and ask that the gazetteal covering the three year period be rescinded.

1956

17-10-56

TOWN SITE AT BROKE INLET

Manjimup Road Board has again been asked if it has any views on the creation of a town site at Broke Inlet, about 60 miles south of the township.

The board had advanced the viewpoint that unless net fishing was restricted the fishing potential for tourists and residents of the district would be destroyed, and there seemed little call for a townsite.

Now the board has been told that if needs be, professional fishermen would be barred from November to May on the inlet, if the plan proceeded.

"If someone wants to go and live there, we shouldn't prevent them. Then that would be all right if the Main Roads Department built a road the eight miles into the inlet, we certainly can't," a member said resignedly.

Manjimup-Warren Times.

OFFICIAL ORGAN OF THE W.A. TOBACCO GROWERS' ASSOCIATION (INCORPORATED)

Circulating in the 2,656 square miles of the Manjimup Shire, including the townships and districts of Manjimup, Pemberton, Northcliffe and Walpole, and the centres of Deanmill, Shannon River, Palgarup, Nyamup, Jardee, Quinninup and Tone River.

PUBLISHED EVERY WEDNESDAY

ESTABLISHED 1926

Registered at the G.P.O., Perth, for transmission by post as a newspaper. Printed by H. R. Golding at the office of the South Western Times, Stephen Street, Bunbury, for the South West Printing and Publishing Co., Limited, Bunbury, W.A.

AND
SERVICE THROUGH
THE

POP
Ba
Pe
Made in
ORLA

Street, Manjimup. P.O. Box 139. Phone 55. Home Phone 137.

Manjimup: H. G. SHORT, Manager.

Australian Subscriptions, £1/1/-, prepaid

MONDAY, DECEMBER 23, 1963

CAMP OWNERS TO BE EVICTED

MANJIMUP: There is a distinct possibility that the owners of huts on the foreshore at Broke Inlet will have their holiday camps bulldozed.

Almost certainly these people will receive orders to evacuate in the very near future.

Despite semi-official warnings in past months that all hut owners in the area would be evicted, several people have gone ahead with their building operations in the area.

The majority of the holiday buildings are sited near the water's edge — on land that is scheduled to become a camping area for the proposed Camfield townsite.

The shire council here has just been asked by the Lands Department to bulldoze the hills into the gullies at the

new townsite and lay out the area.

In payment for this work the council could accept blocks in the townsite at their upset price, or the equivalent value of the work done.

These blocks would then be sold at auction.

As yet the council has not accepted the department's offer — but whether they do or not will make little difference to the fate of the huts on the foreshore.

The proposed camping area stretches back for 10 chains from the water's edge.

This area is where most of the weekend and holiday huts are situated.

Years ago the shire council asked that there should be no townsite at Broke Inlet until a decent road was built to the area.

NO EXCUSE

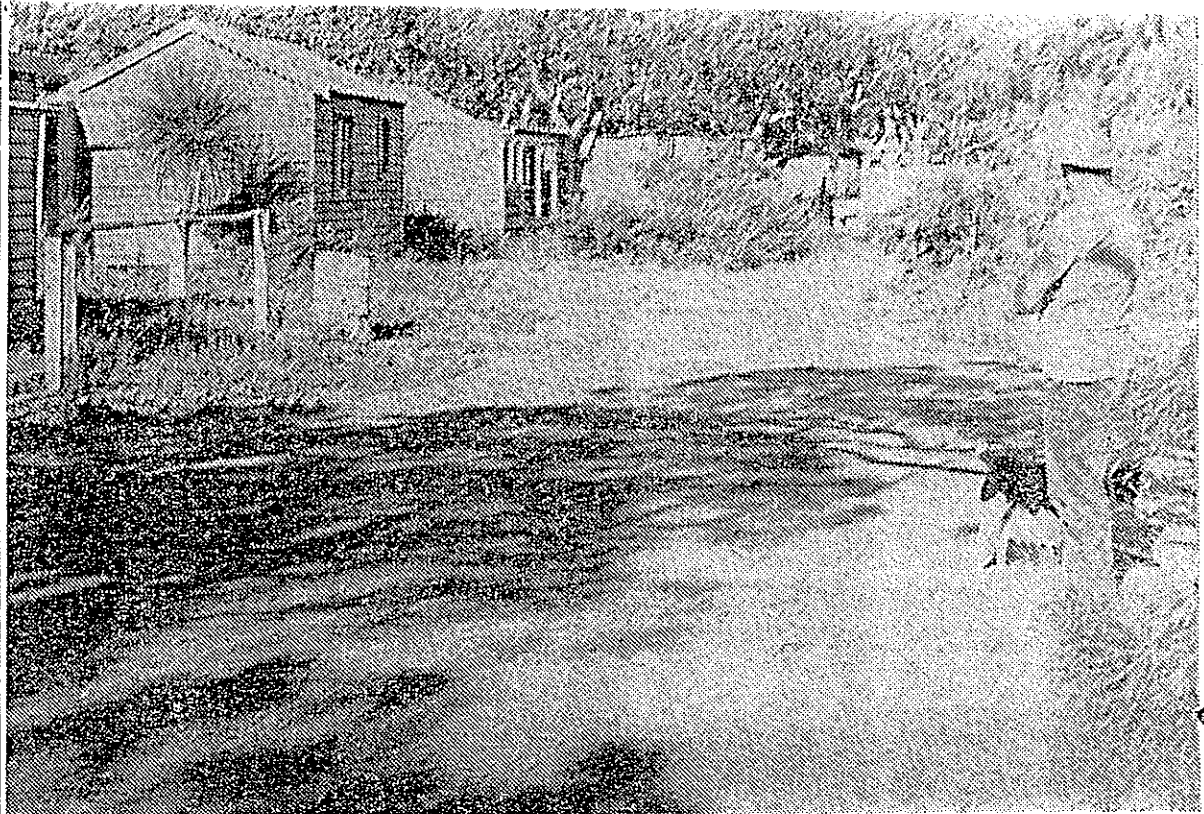
Just recently the M.R.D. constructed a good road to the area—so the council has no excuse to delay the establishment of the townsite, even if it should wish to do so.

Most of the holiday huts on the foreshore are little more than humpies, but some have been built to a fair standard.

The owners have no come-back on the department, as

they built with no security of tenure whatsoever.

The townsite has been named after the first resident magistrate in Albany.



• • This is the "main street" of Broke Inlet and its only residents during the past few weeks, Derrick Beale and his dog. Each of the houses in this "street" are on quarter acre blocks. There are 15 squatters homes in the area.

Broke Inlet, a lost holiday paradise?

by Geoff Kitney

28/7/70

IT'S the sort of place I have always wanted to go for a holiday.

It's a place where you can get away from it all and have a true break from the pressures of the outside world.

No telephone, no electricity, no mail, no relatives, in fact quite often there are no people.

Broke Inlet is my idea of paradise.

A magnificent sheltered inlet, some of the best fishing both in the inlet and off shore along the coast, a comfortable cottage and everything that makes the perfect holiday.

For the past 70 years Broke Inlet has attracted the interest and imagination of a number of people from the Warren district and for many it has been a home away from home.

These people have built beach cottages and shacks at the inlet in that time and today there are 15 homes, of varying size and quality, scattered along the inlet foreshore.

But, unfortunately, they the built on Crown Land and the Government recently decided that all buildings and beach shacks built on Crown Land in such places as Broke Inlet had to go.

As a result the future of Broke Inlet is in doubt.

never give reasons.

"We spend every available moment at Broke Inlet and don't do any harm.

"In fact if we were sure we weren't going to be kicked out of the place people might spend more money on improving their cottages and beach homes in the inlet.

"Not doing any harm" is the key phrase in Mr Cutts' statement.

Cr Crombie was the member on council who originally asked that it support the people using Broke Inlet.

He envisages a similar set up at Broke Inlet as exists at Windy Harbour --only much better.

Cr Crombie said it would be a tragedy if the people using the inlet were precluded from using it for their holiday centre.

Potential

The striking thing about the inlet homes is that they are neatly laid out on quarter acre blocks in one long street.

This was no accident. It started when the first people went there early in the century.

Broke Inlet was settled in 1907 by Ned and Tom Hughes and Herb Clarke. Mr Clarke took up 10 acres of freehold land.

Article continues on next page

↓ CONT ↓

The hopes of the people with cottages in the area lie with a Manjimup Shire Council deputation to the Lands Department.

Council has decided to support the people occupying Broke Inlet.

It hopes to become the controlling authority.

Until it does, if it does, the inlet people face an uncertain future.

Looking somewhere else won't be a new thing for many of the people who have established Broke Inlet as their holiday centre.

Several cottages were built by people who were told to get out of the Peppermints area at Walpole about seven years ago by a similar Government edict.

One of these people was Mr Doug Cutts and he has been a key figure in the fight to retain the Broke Inlet area for holiday homes.

He originally approached council for support and took Crs C. S. Crombie and T. S. Crouch to the inlet to inspect it.

Bush

"The Peppermints returned to bush and the National Parks Board has never done anything with it," Mr Cutts said.

"Now they are going to do the same thing at Broke Inlet and for absolutely no reason. They

Little development took place in the area until shortly after the war when fishermen realised its potential and set up cottages on the inlet edge as headquarters.

One of these fishermen still operating in Broke Inlet is Mr Derrick Beale. He was one of the people responsible for the present layout of the "town".

"When the number of homes increased we made sure that they were set out properly and weren't just put up all over the place," Mr Beale said.

"If this development continues there is room for up to 100 beach homes at the inlet.

"All the place needs to develop properly is to have an assurance that it won't be closed down. People will go ahead and spend money on their places and build good standard buildings."

The one aspect of Broke Inlet that wasn't so pleasant was the lack of garbage disposal and efficient sanitary systems.

Though most of the homes had toilets they were very primitive and could be possible health hazards.

Many cottages had large heaps of rubbish stacked around them.

Manjimup shire Cr Colin Crombie has taken an active interest in the future of the area.

What are circles of rock, stone?

MANJIMUP: What are the mysterious circles of rock and stone on the shores of Broke Inlet?

Mr Ray Needs, of Manjimup, wants to know the exact origin and purpose of the rocks.

He showed the Times photographs of the rocks at Broke Inlet and he believes they are old aboriginal fish traps.

He first saw these circles about 40 years ago.

The rocks are formed in a large circle on the shores of the inlet. They have what looks to be a deliberate opening on the tide side of the circle, with a line of rocks running into the circle from this opening. This resembled a gate which could have trapped fish which swam into the circle during high tide.

Mr Needs estimates these rocks were placed in this fashion over 100 years ago.

If readers can offer more information about these alleged fish traps and if there are any others on the coast line of WA, please contact this office.

Appendix D
Process for rationalisation and removal of
squatters shacks

**Management Plan
Reserve 19787, Camfield, Broke Inlet
Shire of Manjimup**

LAND ADMINISTRATION ACT 1997 - SECT 270

270 . Removal of unauthorised structures from Crown land

(1) In this section and in sections 271 and 272 —

alleged unauthorised structure means structure which the Minister considers to be an unauthorised structure;

notice means notice referred to in subsection (2);

unauthorised structure means structure the erection of which —

- (a) was not, at the time of its erection, authorised under any Act or other law; or
- (b) has ceased, since the time of its erection, to be authorised by any Act or other law.

(2) The Minister may by notice published in a newspaper circulating in the locality of an alleged unauthorised structure that is on Crown land direct the owner of, or any person occupying, that alleged unauthorised structure to remove it, its contents and any fixtures, materials and objects in its vicinity permanently from the Crown land before the day specified in that notice, being a day not less than 90 days after the day of publication of that notice in that newspaper.

(3) A notice may be directed to —

- (a) the owners or occupiers of all alleged unauthorised structures that are on any Crown land specified in the notice; or
- (b) the owner or occupier of each of one or more alleged unauthorised structures specified in the notice that are on any Crown land.

(4) The Minister must, within 14 days after the publication of a notice under subsection (2), cause a copy of the notice to be served on the owner or occupier of each alleged unauthorised structure to which the notice relates.

(5) For the purposes of subsection (4), and without limiting section 274 of this Act or section 76 of the *Interpretation Act 1984*, a notice is duly served on the owner or occupier of an alleged unauthorised structure if a copy of the notice is —

- (a) served on any person in occupation or apparently in occupation of the alleged unauthorised structure; or
- (b) is affixed to the alleged unauthorised structure in a conspicuous place.

(6) If —

(a) a notice has been published under subsection (2) and a copy of the notice has been served under subsection (4);

(b) no appeal is lodged under section 272(1) or, if an appeal is so lodged, the appeal is dismissed; and

(c) the whole or any part of an alleged unauthorised structure or an unauthorised structure, as the case requires, to which the notice relates, any contents of that structure or any fixtures, materials or objects remaining in the vicinity of that structure has or have not been removed from the Crown land by the day specified in the notice or, if an extension has been granted under section 271(3), by the day fixed by that extension,

that structure and those contents, fixtures, materials and objects become the property of the Crown and may be removed, destroyed or disposed of in such manner as the Minister thinks fit.

(7) No compensation is payable to any person in respect of the removal, destruction or disposal under subsection (6) of any alleged unauthorised structure or unauthorised structure, or any contents, fixtures, materials or objects.

6.1.1 LAND ADMINISTRATION ACT 1997 - SECT 271

6.1.2 271 . Applications by owners or occupiers of unauthorised structures for extension of time

(1) The owner or occupier of an alleged unauthorised structure to which a notice published under section 270(2) relates may apply to the Minister under subsection (2) for the extension of the period within which the alleged unauthorised structure, its contents and the fixtures, materials and objects in its area are to be removed.

(2) An application under subsection (1) is to be —

(a) made in writing and is to set out the grounds on which the extension is sought; and

(b) served on the Minister not later than 21 days before the day specified in the relevant notice.

(3) The Minister may extend the period referred to in subsection (1) by not more than 45 days after the day specified in the relevant notice and must grant that extension only if the Minister is satisfied that the applicant —

(a) is unable to remove the alleged unauthorised structure, contents, fixtures, materials and objects from the Crown land before the day specified in that notice; but

(b) intends, and is able, to remove the alleged unauthorised structure, contents, fixtures, materials and objects from the Crown land within the extended period if that extension is granted.

(4) If an appeal is lodged under section 272(1), an extension of the period referred to in subsection (1) is to be taken to have been granted under subsection (3) extending that period by 45 days —

- (a) after the day on which the appeal is dismissed; or
- (b) the appeal having been dismissed, after the day specified in the relevant notice, whichever is the later.

6.1.3 LAND ADMINISTRATION ACT 1997 - SECT 272

6.1.4 272 . Appeals by owners or occupiers of alleged unauthorised structures

(1) Subject to subsection (2), a person on whom a copy of a notice has been served under section 270(4), or any person aggrieved by the notice, may within 21 days after that service or such longer period as the Minister in special circumstances allows lodge an appeal against the notice with the Minister under Part 3.

(2) An appeal can only be lodged under subsection (1) on the grounds that the structure to which the notice relates is not an unauthorised structure.

6.1.5 LAND ADMINISTRATION ACT 1997 - SECT 273

6.1.6 273 . Delegation of powers and duties in relation to unauthorised structures

(1) The Minister may, either generally or as otherwise provided by the instrument of delegation, by writing signed by him or her delegate any of his or her powers and duties under section 270 or 271 to —

- (a) an employee of a local government;
 - (b) an employee within the meaning of the [*Public Sector Management Act 1994*](#) ;
- or
- (c) any management body or other person responsible for the care, control and management of a reserve.

(2) A power or duty delegated under subsection (1) must, if exercised or performed by the delegate, be exercised or performed in accordance with the instrument of delegation.



(3) Nothing in this section prevents or limits the application of sections 58 and 59 of the *Interpretation Act 1984* to a delegation made under subsection (1).


Appendix E

Description of Weeds Recorded and Recommended Methods of Control

**Management Plan
Reserve 19787, Camfield, Broke Inlet
Shire of Manjimup**

Appendix E- Description of Weeds Recorded and Recommended Methods of Control

Botanical Name	Comments (from Australian Weeds Committee website and Moore and Wheeler, 2002)	Weed Removal Techniques (from Moore and Wheeler, 2002)
<p data-bbox="192 384 320 443"><i>Rubus sp</i> Blackberry</p>  	<p data-bbox="719 389 922 416">Family: Rosaceae</p> <p data-bbox="719 429 913 456">Form: Shrub/vine</p> <p data-bbox="719 469 1196 496">Origin: Native to Europe and adjacent areas</p> <p data-bbox="719 509 1344 1018">Description: To 3 cm wide with 5 white or pink petals. Flowers late spring to summer. Semi-deciduous scrambler to 2 m high with canes to about 7 m long. There are many taxa (in this case not true species) in the <i>fruticosus</i> aggregate. Stems mostly arching, green, reddish or purple, ribbed, angled or concave, with or without hairs. Prickles straight or curved. Leaves usually comprise 3 or 5 ovate leaflets, are dark green on the upper surface and with many to no hairs underneath. Fruit globe-shaped, 1–3 cm across, initially green ripening through red to black. Seeds pitted, to 3 mm long. Spread by seed, rooting of cane tips and lateral roots producing suckers. The latter two means of spread result in large clumps over time. Fruit is eaten by birds and mammals (especially foxes) that may transport seeds some distance.</p> <p data-bbox="719 1031 1344 1121">Status: This weed has been declared a weed of national significance as it is a serious weed of creek lines and spreads into forest and woodlands.</p>	<p data-bbox="1366 389 2085 735">Mechanical control is difficult and most of the root system must be removed for effective control. Blackberry is difficult to eradicate. Three annual, summer applications of 100mL of Grazon plus 25mL of Pulse in 10L of water has provided eradication on 30% of sites when assessed 10 years later. Grazon will damage most broad leaved species but is the only chemical that has provided reliable eradication. 100mL of glyphosate in 10L of water provides reasonable control and can be used in sensitive areas. Repeat as new growth appears. Replant with native species after control has been achieved. Biocontrol rust fungi have established but have little impact in terms of eradicating blackberry.</p> <p data-bbox="1366 748 2085 874">Frogs have been found to be very sensitive to some herbicide products, and in particular to the surfactants, or wetting agents used to improve the effectiveness of the chemicals (Bidwell & Gorrie 1995).</p> <p data-bbox="1366 887 2085 978">Two herbicides have been tested to a limited extent in local conditions, and have been found to be safe for fauna and flora if used according to directions. These herbicides,</p> <p data-bbox="1366 991 2085 1145">Roundup Biactive® and Fusilade®, are also of low toxicity to humans, and biodegrade quickly upon entering a natural system (Mann 1998; Woodcock et al 1993; PMEP 1999). Roundup Biactive® has a wetting agent which is 100 times safer for frogs than the original Roundup formulation (Mann 1998).</p>

<p><i>Leptospermum laevigatum</i> Victorian Tea Tree</p>	<p>Family: Myrtaceae Form: Shrub, small tree Origin: SE Australia</p> <p>Description: It is widely naturalised outside its natural range in north-east NSW and South-east Queensland where it competes effectively with native vegetation. In Western Australia it was introduced after sand mining and has now become naturalised. It has spread rapidly along road verges between Jurien Bay and Albany invading coastal heath and woodlands on sandy and lateritic soils. It has abundant white flowers 15-20 mm across which develop into woody capsules which subsequently open to shed large numbers of seeds.</p>	<p>Slash, fell or bulldoze thickets, then burn when dry. Spray regrowth until just wet with mixture of 100mL of Grazon® plus 25mL of Pulse® in 10L of water. Individual plants can be controlled by applying a mixture of 200ml of Access® in 10L of diesel to the lower 50cm of each trunk.</p> <p>Seedlings can be manually removed in the first year of two. Older seedlings tend to break off and re-grow. Small bushes tend to re-grow when cut but older bushes tend to die.</p> <p>Plant shrub and tree species 2 years after last spray to increase shade. Grazing will increase control of seedlings.</p>
		

<p><i>Genista monspessulanna</i> Broom</p>	<p>Family: Fabaceae Form: shrub, small tree Origin: Native to Mediterranean Europe</p> <p>Both genera <i>Cytisus</i> and <i>Genista</i> are similar in appearance and have the same common name. <i>Genista</i> contains 90 species of shrubs or small trees often deciduous or appearing evergreen due to green flattened branches. They are sometimes spiny. Pea-like yellow flowers are carried in dense heads. Seeds which are poisonous are borne in pods. The seeds may live for years in the soil germinating densely after fire.</p>	
