



## SHOALHAVEN BUSHCARE GROUP/SITE PLAN

### CONTACT INFORMATION

<b>Group Name:</b>	Lake Wollumboola Bushcare Group
<b>Contact:</b>	Karyn Knowles
<b>Address:</b>	61 Silvermere Street, Culburra Beach
<b>Tel:</b>	4447 2227 <b>Email:</b> kknowles@shoal.net.au
<b>Reserve Name:</b>	East Cr , Boat Ramp & Sheepwash Creek Reserves
<b>Reserve No.</b>	CCU271 & CCU388
<b>Land Tenure:</b>	SCC & Crown Reserve
<b>Comm. Land Type:</b>	Foreshore

### 1. Please provide a brief description of your group's proposed project

The aims of the Lake Wollumboola Bushcare Group are:

1. Increase and support the group's membership.
2. Regenerate the degraded area's native vegetation on the northern side of the Lake Wollumboola foreshore (from The Lake Wollumboola Boat Ramp to the fore dunes at the lake entrance) that are suffering from exotic weed invasion.
3. Work with Shoalhaven City Council to help achieve these goals.
4. Any weed control activities will be undertaken in accordance with the objectives and recommendations set out in the Draft Culburra Green & Golden Bell Frog Plan of Management (GGBFPOM).
5. Maintain and improve the Green & Golden Bell Frog (GGBF) habitat.
6. To foster an appreciation & respect of Lake Wollumboola's natural and cultural heritage values

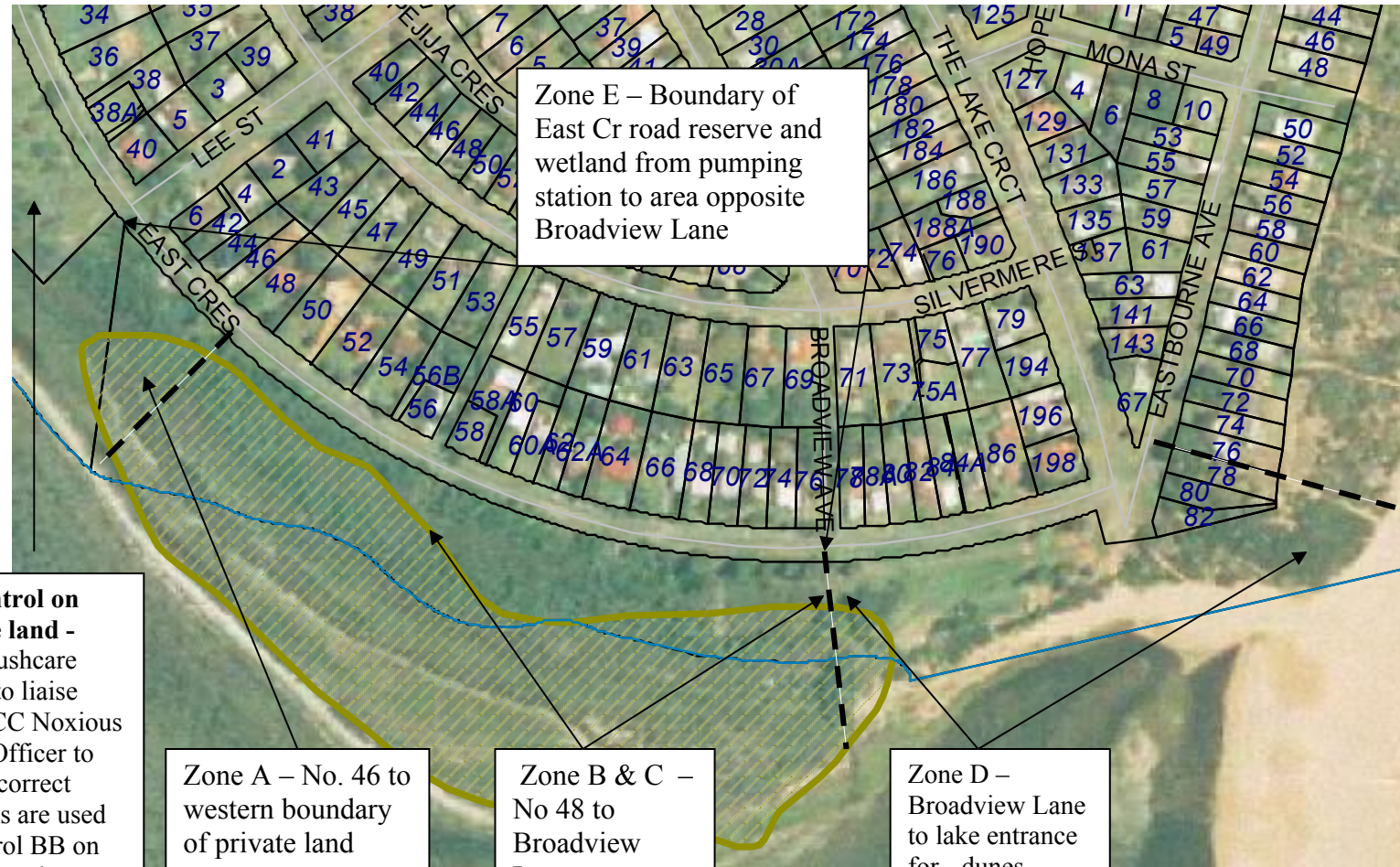
### 2. Site Map and Group Activities

Show on the site/mud map what short to long term activities you would like to achieve (choose from activities below or include others to show on your site map with list and descriptions where required)

<p><b>Bush regeneration/revegetation</b></p> <ul style="list-style-type: none"> <li>• Areas for regeneration, revegetation/planting</li> <li>• Areas of weed control (include species and stages of weed control)</li> </ul>	<p><b>Infrastructure</b></p> <ul style="list-style-type: none"> <li>• Walking tracks, paths</li> <li>• Fencing, bollards</li> <li>• Viewing platform</li> <li>• Signage</li> </ul>
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The Lake Wollumbilla Bushcare Group area is broken into two sites as per the attached maps.

**Site 1 – East Cr. to Warrain Beach Dunes**



**LAKE WOLLUMBOOLA BUSHCARE GROUP ACTION PLAN SITE 1 - EAST CRESENT RESERVE (to be included with site map)**

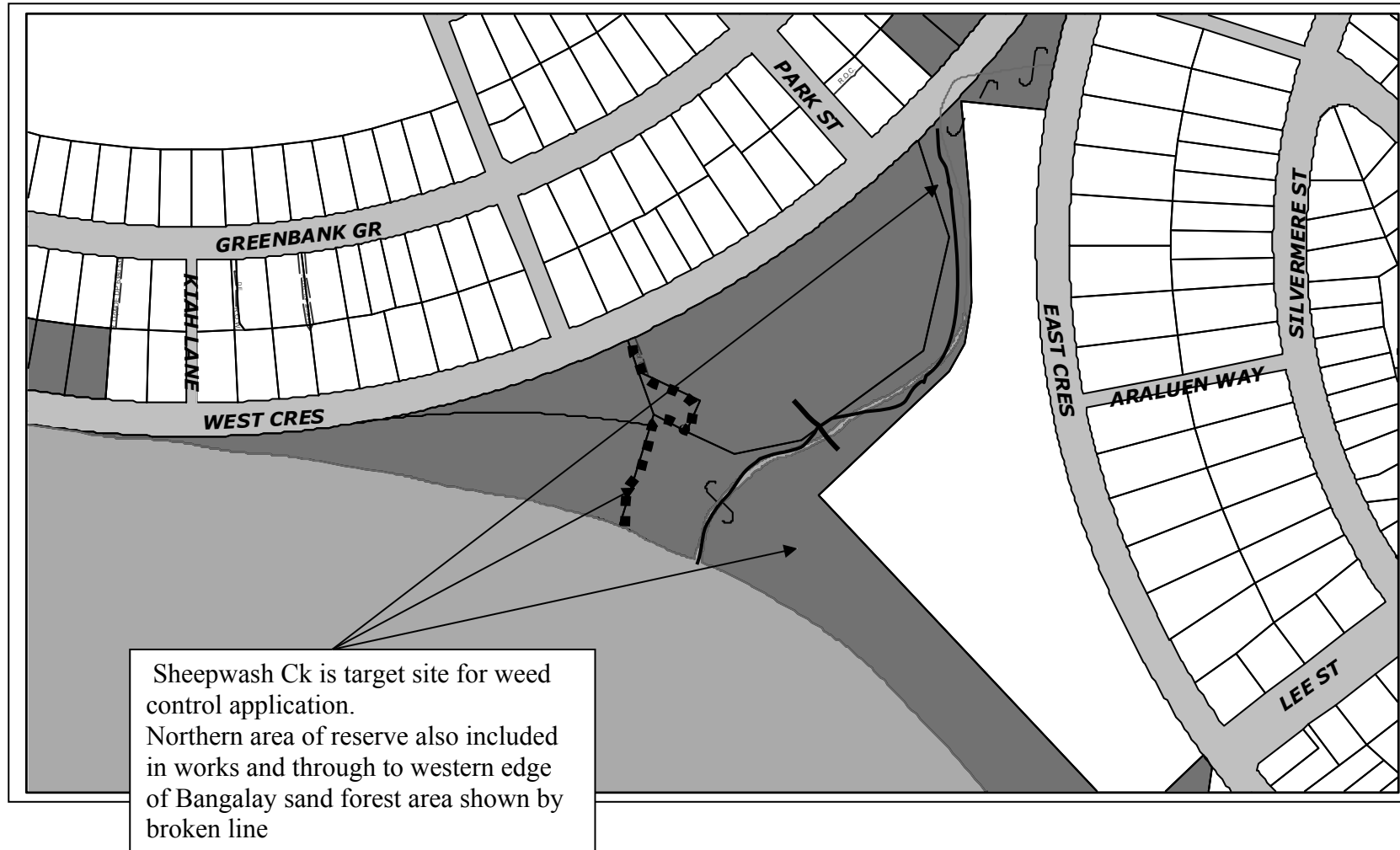
**NOTE: Priority should be rated as H = High (within 12 months); M = Medium (1-3 years); L = Low**

<b>ZONE</b>	<b>GROUP ACTION</b>	<b>Priority</b>	<b>Method</b>	<b>Time</b>
<b>A</b> From No. 46 west to boundary of private land	<ol style="list-style-type: none"> <li>Follow up weed removal of Lantana, Bitou Bush &amp; Asparagus Fern in Work for the Dole area on 2<sup>nd</sup> swale - On-going</li> <li>On-going maintenance of the kikuyu and Morning glory area following spraying by contractors</li> <li>Assist with follow up control of area immediately west of pumping station, targeting blackberry &amp; Honesuckle that was done by contractors - On going</li> <li>Replanting of area immediately adjacent to pumping station</li> </ol>	<ol style="list-style-type: none"> <li>H</li> <li>H</li> <li>M</li> <li>L</li> <li>M</li> </ol>	<ol style="list-style-type: none"> <li>Hand pull or cut and paint</li> <li>Spot spray Kikuyu and scrape and paint Morning Glory.</li> <li>Hand pull, cut &amp; paint or scrape and paint Blackberry</li> <li>5. Use species list attached</li> </ol>	<ol style="list-style-type: none"> <li>On going</li> <li>On going</li> <li>Spring Autumn.</li> <li>Autumn 08</li> </ol>
<b>B &amp; C</b> From No. 48 east to Broadview Lane	<ol style="list-style-type: none"> <li>Group to work along rear of last dune swale towards the lake and hand removal of small emerging bitou &amp; Lantana seedlings under waist height - On going</li> <li>Group to monitor growth rate of Bitou Bush and Lantana and contact Bushcare Coordinator/Bitou Bush Officer if large plants found</li> <li>Treat Monbretia in zone C to reduce further spread</li> <li>LW Bushcare to cut and paint last Lantana plant buffers on the edge of the road.</li> <li>Continue to cut and bag seed heads of Turkey Rhubarb and remove from site</li> <li>Spray remaining foliage with Biactive Roundup® at a mix ration of 1 : 100 (!%) in the winter months as per the Draft GGBF Mgt Plan</li> <li>Bushcare group with Bushcare Support worker to establish a 2 x vegetation transect running North South</li> </ol>	<ol style="list-style-type: none"> <li>H</li> <li>H</li> <li>M</li> <li>M</li> <li>H</li> <li>M</li> <li>M</li> </ol>	<ol style="list-style-type: none"> <li>Hand pull or cut and paint</li> <li>Observation</li> <li>Swipe entire leaf area with neat Glyphosate using sponge and PVC gloves</li> <li>Cut and paint and break down dead canes as mulch</li> <li>Bag and remove from site</li> <li>Spot spray in winter</li> <li>Vegetation transect:                         <ol style="list-style-type: none"> <li>Define area and peg out 2 x 20m x 5m transect</li> <li>Take GPS reading of transects</li> <li>Record weed and</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>On going</li> <li>On going</li> <li>Winter</li> <li>Anytime</li> <li>Late summer - Autumn</li> <li>Winter</li> <li>Group to set time frame</li> </ol>

	opposite house No. 54 East Cr and East West in “the work for the dole area”, to monitor vegetation changes over time – SCC to supply GPS for transect. The goal of these transect is to demonstrate and measure resilience of native regrowth after initial removal of weeds by Bushcare group.		native species abundance across transects over time period	
Zone D Broadview Lane to dunal area adjacent house No. 78 Eastbourne Ave	<ol style="list-style-type: none"> <li>1. Cut and bag seed heads of Turkey Rhubarb and remove from site</li> <li>2. spot spray emerging Bridal Creeper with 1:100 glyphosate/water</li> <li>3. Crown out emerging Asparagus Fern on dunes and bag crowns.</li> <li>4. Hand weed dune areas adjacent to Lakeside park mown areas as needed.</li> <li>5. Cut and paint Morning Glory climbing <i>Casuarina glauca</i> forest and trial solarisation of the weed on the ground</li> <li>6. Look at controlling edge effect along the boundary of mown areas and natural areas of dunes at Lakeside park by spraying out invading Kikuyu and establishing a 1 meter width mulched area along edge.</li> </ol>	<ol style="list-style-type: none"> <li>1. H</li> <li>2. H</li> <li>3. H</li> <li>4. L</li> <li>5. M</li> </ol>	<ol style="list-style-type: none"> <li>1. Bag and remove from site</li> <li>2. Spot spray in winter</li> <li>3. Crown out and bag crowns</li> <li>4. Hand weed</li> <li>5. Cut climbers at shoulder height and lay on ground secure with black plastic</li> <li>6. Council to spray Kikuyu and Bushcare group to spread mulch and maintain</li> </ol>	<ol style="list-style-type: none"> <li>1. On going</li> <li>2. Winter</li> <li>3. On going</li> <li>4. On going</li> <li>5. Summer, Spring</li> <li>6. Spring 09</li> </ol>
Zone E – Boundary of East Cr road reserve and wetland	<ol style="list-style-type: none"> <li>1. Install a buffer strip along the existing boundary of the bushland and slashed road reserve of East Cr by the following method: <ol style="list-style-type: none"> <li>a. Install timber bollards 1 meter out from bushland edge at 10 meters intervals</li> <li>b. Spray Kikuyu back from bollards into the bushland reserve</li> </ol> </li> </ol>	H	<ol style="list-style-type: none"> <li>1. Council to spray Kikuyu , install mulch and bollards.</li> <li>2. Bushcare group to plant Lomandra and maintain edge.</li> </ol>	<ol style="list-style-type: none"> <li>1. June 07</li> <li>2. July 07 and on going</li> </ol>

from pumping station to area opposite Broadvie w Lane	c. Lay a 1 meter width mulch buffer zone along bollards. d. Densely plant ( 3 plants per m2 ) with <i>Lomandra longifolia</i> in mulched are between bollards.			
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Site 2 – Sheepwash creek to Boat Ramp Reserve



**LAKE WOLLUMBOOLA BUSHCARE GROUP ACTION PLAN SITE 2- SHEEPWASH CREEK TO BOAT RAMP (to be included with site map)**

**NOTE: Priority should be rated as H = High (within 12 months); M = Medium (1-3 years); L = Low**

<b>GROUP ACTION</b> (these should relate to your project description)	<b>PRIORITY</b>	<b>METHOD</b>	<b>TIME</b>
Noxious Weed- Bitou Bush	HIGH	Cut & Paint Stem 3:1 Glyphosate Hand Spray 100:1 Glyphosate	All Year Winter
Noxious Weed - Privet	HIGH	Cut & Paint Stem 3:1 Glyphosate	All year
Noxious Weed - Blackberry Bush	HIGH	Dig out roots of plant	All year
Lantana	HIGH	Cut & Paint Stem 3:1 Glyphosate Hand Spray 100:1 Glyphosate	All Year Winter
Prickly Asparagus	HIGH	Hand Spray 75:1 Glyphosate + surfactant	Winter
Cassia	HIGH	Cut & Paint Stem 3:1 Glyphosate	All Year
Garden Escapes – English Ivy Japanese Honeysuckle	HIGH	Hand Pull runners & dispose of; then spray regrowth leaves with same mix in winter as for asparagus fern OR Cut & paint main stems with 3:1	All Year Winter spraying
Garden Escape – Bridal Creeper	HIGH	Release of biological control	Autumn/Winter
Wild Ginger Mickey Mouse Plant	MEDIUM	Cut & Paint Stem 3:1 Glyphosate	All Year
Garden Escape - Impatiens (Balsam)	LOW	Cut & Paint Stem 3:1 Glyphosate	All Year Winter

		Hand spray 100:1 glyphosate	
Other garden escapes	LOW	As for Impatiens (above)	Depends on species
Fleabane/Solanum spp (Nightshades)	LOW	Not aggressive weeds –no treatment necessary. Will be out-competed by native vegetation as health of site improves.	-
Fishbone Fern	LOW	Hand Spray 100:1 glyphosate + surfactant or dig out plants and remove from site	Spring summer or all year around



**5. Volunteer activities related to the action: (tick the activities that the group volunteers are likely to be doing as part of the action plan)**

<b>Type of Activity</b>	<b>Yes</b>	<b>No</b>
<b>Manual weed control (cut &amp; paint, scrape and paint etc)</b>	√	
<b>Chemical control (spraying of herbicides)</b>	√	
<b>Planting</b>	√	
<b>Minor construction (walking track, fencing, outdoor furniture)</b>	√ Possibly install bench seats	
<b>Propagation &amp; seed collection</b>	√	
<b>Education (school groups, field days etc)</b>	√	
<b>Vegetation monitoring and survey</b>	√	

**6. Council activities related to the action plan (list the activities/actions council will do).**

- 1. Supply of tools/equipment**
- 2. Assist with funding application and management**
- 3. Supply of Bushcare support Worker for 4 hours per month**
- 4. Assist with minor weed control works**
- 5. Assist with installation of buffer edge installation between East Cr Road and Wetland Bushland areas**

**7. Has a site hazard and risk assessment been completed for the Bushcare site?**

Yes    √                      No

**8. List the Personal Protection Equipment required for volunteers whilst working on the site**

<b>PPE Equipment Required</b>	<b>Issues</b>	<b>Date</b>
First Aid Kit		
Gloves		
Sunscreen		
Spray mask		
Eye protection		

**9. Possible Future Funding**

<b>Project</b>	<b>Funding source</b>
<b>Employ contractors to assist with regeneration of Site 2</b>	<b>SRCMA Biodiversity Grant or Envirofund</b>

**10. Plan will be reviewed yearly - next review due:**

**.....June ./2008.....**

**11. The group should review a summary of the Bushcare Policy & Procedures at the annual review**

**12. Please list other local or regional management plans or strategies that this plan relates to**

<b>Name of document</b>	<b>Year it was produced</b>	<b>Produced by</b>
<b>Draft Green and Golden Bell Frog Plan and Management for Culburra Beach</b>		
<b>Lake Wollumboola Estuary Management Plan</b>		

**Signature of Bushcare Group Coordinator**.....

**Signature of Shoalhaven Bushcare Coordinator** .....

## **Lake Wollumboola SEPP 14 Wetland No. 365 Rehabilitation Plan**

This plan has been devised to guide both contractors and the Lake Wollumboola Bushcare in regards to the long term maintenance of the Envirofund project.

**NOTE: AS PER THE RECOMMENDATIONS OF DR MICHAEL MAHONEY THE AUTHOR OF THE CULBURRA BEACH GREEN AND GOLDEN BELL FROG PLAN OF MANAGEMENT, NO SPRAYING OF HERBICIDES SHOULD BE USED IN THE IMMEDIATE AREA ANY WATER BODIES AND SHOULD ONLY BE USED DURING THE WINTER MONTHS., ONLY BIACTIVE ROUNDUP SHOULD BE USED.**

( Email from Dr Michael Mohoney)

Dear Stratton,

I believe that you should be able to spray the Bitou bush effectively without impacting on waterbodies. It is a good time of the year to be doing weed management because the bell frogs should be in hibernation. There is the possibility that some may use the thick Bitou bush as the site under which they hibernate. There is little you can do about this, and little knowledge that the animals may do that. During the winter months there should be no tadpoles in any water bodies and there is therefore minimal chance that any spray drift would have a negative impact. As I understand it the active ingredient of Roundup is glyphosphate and studies imply that it is not harmful to amphibians. I would note that no specific tests of the efficacy of using this herbicide on bell frogs is available, or for that matter most Australian frogs. There were studies that indicated that the chemicals added to the herbicide to disperse it (surfactants) are harmful to amphibians. My understanding of biactive roundup is that it does not use the harmful surfactants.

All in all I think you should be able to go ahead with the weed program taking care not to spray over water on onto water wherever possible.

Regards, Michael Mahony

Dr Michael Mahony  
Assistant Dean Research Training  
Faculty of Science and Information Technology  
School of Environmental and Life Sciences  
University of Newcastle  
University Drive, Callaghan NSW 2308  
AUSTRALIA



**SUGGESTED SPECIES LIST FOR FUTURE SITE REVEGETATION**

**OVERSTORY TREES**

**Pelargonium australe**

**Kennedia rubicunda**

**Dianella species**

**Crinum pedunculatum**

**Lomandra species**

**Carpobrotys glaucescens**

**Poa species**

**Cyathea cooperii**

**Themeda australis**

**Hibbertia scandens, Dioscorea traversa , Parsonsia straminea**

**Gahnia sp**

**Gleichenia and othe local ferns**

**Botanical**

**Banksia integrifolia**

**Pelargonium australe**

**Kennedia rubicunda**

**Dianella species**

**Crinum pedunculatum**

**Lomandra species**

**Carpobrotys glaucescens**

**Poa species**

**Cyathea cooperii**

**Themeda australis**

**Hibbertia scandens, Dioscorea traversa , Parsonsia straminae**

**Gahnia sp**

**Gleichenia and othe local ferns**

**Botanical**

Banksia integrifolia

Banksia serrata

Casuarina glauca

Eucalyptus botryoides

Leptospermum laevigatum

**SHRUBS**

**Botanical**

Acacia longifolia var. sophorae

Hakea salicifolia

Kunzea ambigua

Melaleuca hypericifolia

Myoporum insulare

**UNDERSTORY (Grasses, Herbs, Climbers)**

**Botanical**

Dianella cerulea

Lomandra longifolia



Scaevola albida
Juncus kruasii
Rubus parviflora
Dichondra rapens
Violoa hederacea

#### SITE WEED LIST

Noxious	Other	Control Method
Bitou Bush		Cut 'n paint (>5mm diameter) hand pull (<5mm diameter)
Pampas Grass		Burn and spray or remove seed head
	Asparagus Fern	Crown
	Lantana	Cut 'n paint (>5mm diameter)
	Senna (Cassia)	Cut 'n paint
	Moth Vine	Paint 'n scrape and bag seed heads
	Cape Ivy	Paint 'n scrape
	Morning Glory	Paint 'n scrape

