



KIOLOA BUSHCARE ACTION PLAN – REVIEW 2016

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CONTACT INFORMATION

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Reserve Name:	O'Hara Headland, Butlers Creek Lagoon, Merry Beach and Butler St Crown Land Reserves and Road Reserves
Reserve Number:	SKI703, SKI923
Land Tenure:	SCC, TM CC Crown Land and vacant crown land
Comm. Land Type:	Natural Area

1. BUSHCARE GROUP GOALS

The aims of the Kioloa Bushcare Group are as follows:

1. To continue regeneration efforts at O'Hara Headland Reserve, as per the aims and objectives of the O'Hara Headland Reserve Plan of Management adopted by Shoalhaven City Council April 2006.
2. Continue with pest plant control activities across various land tenures within and surrounding Kioloa village, with the priority being:
 - a. Follow up all pest plant control efforts previously undertaken by the Kioloa Bushcare Group volunteers;
 - b. Consult with other landholders (NPWS, ANU, Crown Land, Caravan Park and Private) to implement a pest plant control program prioritising the following weed species:
 - i. *Aristea ecklonii* – Blue Stars
 - ii. Arum Lily
 - iii. Asparagus Fern
 - iv. Winter Senna
 - v. Bridal Creeper
3. Regeneration of the Butlers Creek Lagoon Crown Land Reserve.

2. **SHOALHAVEN BUSHCARE GROUP ACTIVITIES TABLE** (to be in conjunction with attached site map)
NOTE: Priority should be rated as H = High (within 12 months); M = Medium (1-3 years); L = Low

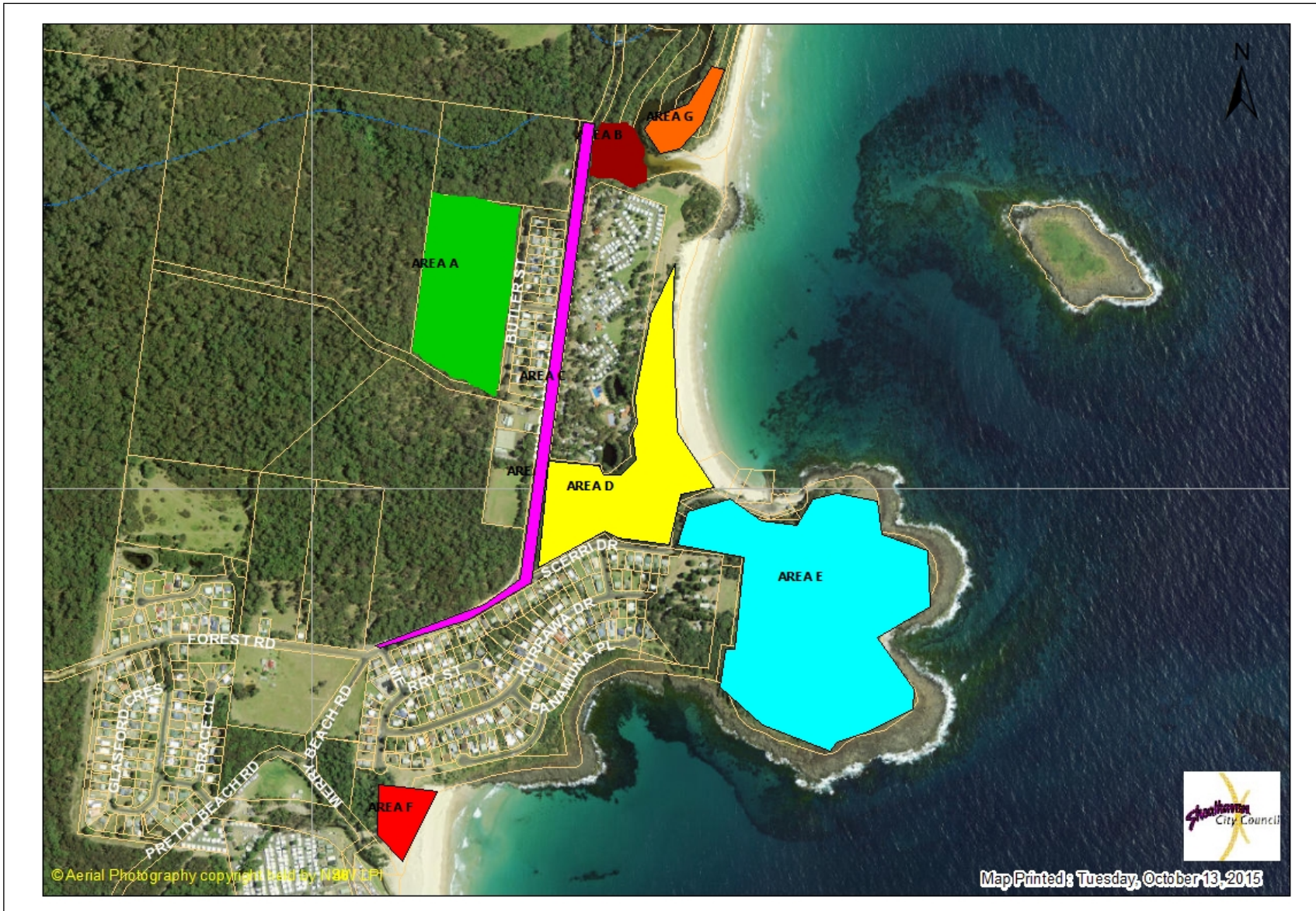
GROUP ACTION (these should relate to your project description)	PRIORITY	METHOD	TIME
<p>Area A – Vacant Crown Land West of Butler St (New Area) New Actions</p> <ol style="list-style-type: none"> 1. Seek permission from NSW Crown Lands to work on vacant crown land 2. Control of the following weed species: <ol style="list-style-type: none"> a. Asparagus Fern (<i>Asparagus asparagoides</i>); b. Spider Plant (<i>Chlorophytum spp.</i>); c. Japanese Honeysuckle (<i>Lonicera japonica</i>). 	<ol style="list-style-type: none"> 1. H 2. H 	<ol style="list-style-type: none"> 1. Council staff to contact NSW Crown Land to seek permission on behalf of Bushcare Group. 2. Manual and chemical control as per best practice for each weed species. 	<ol style="list-style-type: none"> 1. 2015 2. As required
<p>Area B – Butlers Creek Lagoon Picnic Area (New Area) New Actions</p> <ol style="list-style-type: none"> 1. Work with Council, Bawley Point & Kioloa Community Association and the Kioloa Caravan Park to regenerate the degraded areas of the Butlers Creek Lagoon Picnic Area to: <ol style="list-style-type: none"> a. Request Council review vehicle access; b. Mulch compacted areas; c. Collect and propagate local seed in cooperation with Milton Landcare Nursery; d. Replant degraded compacted areas using species from the plans revegetation list; e. Undertake weed control with follow up control of Asparagus Fern (<i>Asparagus aethiopicus</i>); 	<ol style="list-style-type: none"> 1. M 	<ol style="list-style-type: none"> 1. Mulch compacted area and have Coral Tree removed. 2. Bushcare Group to undertake weed control and planting. 	<ol style="list-style-type: none"> 1. 2016/17 2. As required

GROUP ACTION (these should relate to your project description)	PRIORITY	METHOD	TIME
<ul style="list-style-type: none"> f. Treat and remove dumped Coral Tree (<i>Erythrina x sykesii</i>); as resources permit; g. Prepare a Review of Environmental Factors (REF) for control of <i>Pittosporum undulatum</i> at the site. 			
<p>Area C – Murramarang Road Reserve (New Area) New Actions</p> <ul style="list-style-type: none"> 1. Continue to undertake follow up weed control on the road reserve targeting: <ul style="list-style-type: none"> a. Blue Stars (<i>Aristea ecklonii</i>); b. Asparagus Fern (<i>Asparagus aethiopicus</i>); c. Mother of Millions (<i>Bryophyllum delagoense</i>). 	1. M	<ul style="list-style-type: none"> 1. Identify volunteers who will work on road reserve within 1 metre of verge and get them to undertake training in traffic management. 2. Council and Group to prepare Traffic management plan for weed control work. 3. Undertake weed control. 	<ul style="list-style-type: none"> 1. 2015 2. 2015/16 3. As required
<p>Area D – Scerri Drive and Main Beach Boat Ramp Existing and Current Actions</p> <ul style="list-style-type: none"> 1. Assist Council with the maintenance, such as pruning of the foot track adjacent to Scerri Drive; 2. On-going follow up control of environmental and noxious weeds around beach car park and dunes area. <p>New Action</p> <ul style="list-style-type: none"> 1. Seek funding support for control of large Arum Lily infestation. 	<ul style="list-style-type: none"> 1. M 2. H 1. M 	<ul style="list-style-type: none"> 1. Pruning overhanging branches back to track edge. 2. Manual and chemical control as per best practice. 1. Council and BG to seek grant 	<ul style="list-style-type: none"> 1. As required 2. As required 1. 2016 -18

GROUP ACTION (these should relate to your project description)	PRIORITY	METHOD	TIME
		support.	
<p>Area E – O’Hara Headland Existing and Current Actions</p> <ol style="list-style-type: none"> 1. On-going control of environmental and noxious weeds across the headland; 2. Monitor the Bridal Vail Creeper Rust Fungus populations. <p>New Actions</p> <ol style="list-style-type: none"> 1. Assist Council to maintain the formalised walking track loop by pruning/trimming using non-powered hand tools only, overhanging vegetation to reduce public risk and maintain access. This is only to be done on the formalised walking track that has been constructed on the headland as per the Shoalhaven Walking Track Strategy (see map in appendix 2 for track location details); 2. Undertake replacement/supplementary planting on headland as required using species from the revegetation list. 	<ol style="list-style-type: none"> 1. H 2. H 1. L 2. L 	<ol style="list-style-type: none"> 1. Manual and chemical control as per best practise for weeds. 2. Monitor and report. 1. Prune/cut small to medium size branches back to track Edge. 2. Use plant species from revegetation list in section 10 and install roo protection. 	<ol style="list-style-type: none"> 1. As required 2. As required 1. As required 2. As required
<p>Area F – Merry Beach (New Area)</p> <ol style="list-style-type: none"> 1. Monitor and control new outbreaks of Sea Spurge on Merry Beach. 	<ol style="list-style-type: none"> 1. H 	<ol style="list-style-type: none"> 1. Monitor and control (ensure gloves are worn as plants have toxic sap). 	<ol style="list-style-type: none"> 1. As required
<p>Area G – Shelly Beach Hind Dune - Australian National University Land (New Area) New Action</p> <ol style="list-style-type: none"> 1. Work with Council, ANU Field Studies Centre and 	<ol style="list-style-type: none"> 1. M 	<ol style="list-style-type: none"> 1. Consult with ANU Field 	<ol style="list-style-type: none"> 1. As

GROUP ACTION (these should relate to your project description)	PRIORITY	METHOD	TIME
Bawley Point Bushcare Group to assist with the restoration of sections of the Bangalay Sand Forest on the hind dunes to implement an Asparagus Fern control program.		Studies Centre Manager and Bawley Point Bushcare Group to organise joint working bees for Asparagus control and seek funding to assist.	required

3. KIOLOA BUSHCARE GROUP ACTION PLAN REVIEW MAP



BUSHCARE GROUP WH&S & EQUIPMENT REQUIREMENTS

Type of Activity	Yes	SWMS name included
Manual weed control (cut & paint, scrape and paint etc.)	√	SWMS1276
Chemical control (spraying of herbicides)	√	SWMS1276
Planting	√	SWMS1265
Minor construction (walking track, fencing, outdoor furniture)	√	SWMS 1200
Propagation & seed collection	√	SWMS1265
Education (school groups, field days etc.)		
Other		

4. COUNCIL SUPPORT

- Materials and equipment within budget constraints.
- Grant application and management support.
- Printing and graphic design services.
- One Bushcare Support Trainer to assist the group on site 3 hours per month for 11 months per year.
- Some assistance with pest plant control as resources permit.

5. HAS A SITE HAZARD AND RISK ASSESSMENT BEEN COMPLETED FOR THE BUSHCARE SITE?

Yes √ No

6. LIST THE PERSONAL PROTECTION EQUIPMENT REQUIRED FOR VOLUNTEERS WHILST WORKING ON THE SITE

PPE Equipment Required	Date issued
First Aid Kit	2015
Gloves	2015
Sunscreen	2015
Insect repellent	2015

7. POSSIBLE FUTURE FUNDING

Project	Funding source
Control of Arum Lily on hind dune area of Kioloa Beach	Various
Partnership project to restore Bangalay Sand Forest on ANU Field Studies Centre land by Asparagus Fern	Various

8. PLAN WILL BE REVIEWED EVERY THREE YEARS

Next review due:

.....24...../...May...../...2019.....

9. PLEASE LIST OTHER LOCAL OR REGIONAL MANAGEMENT PLANS OR STRATEGIES THAT THIS PLAN RELATES TO

Name of document	Year it was produced	Produced by
Generic Community Land Plan of Management – Natural Areas	2001	Shoalhaven City Council
Foreshore Reserves Policy	2013	Shoalhaven City Council
O'Hara Headland Reserve – Kioloa Plan of Management	2006	Shoalhaven City Council

**10. RECOMMENDED PLANTING/REVEGETATION SPECIES LIST
(Applies to areas B and E on Bushcare Plan Map)**

OVERSTOREY TREES	
Botanical	Common
<i>Banksia integrifolia</i>	Coast Banksia
<i>Casuarina glauca</i>	Swamp Oak
<i>Corymbia maculata</i>	Spotted Gum
<i>Eucalyptus botryoides</i>	Bangalay
<i>Eucalyptus longifolia</i>	Woollybutt
<i>Eucalyptus tereticornis</i>	Forest Red Gum
SHRUBS	
Botanical	Common
<i>Acacia longifolia ssp. longifolia</i>	Sydney Golden Wattle
<i>Acacia longifolia ssp. sophorae</i>	Coastal wattle
<i>Acmena smithii</i>	Lilli Pilli
<i>Clerodendrum tomentosum</i>	Hairy Clerodendrum
<i>Elaeocarpus reticulatus</i>	Blueberry Ash
<i>Homalanthus populifolius</i>	Bleeding Heart
<i>Myoporum acuminatum</i>	Mangrove Boobialla
<i>Myoporum boninense</i>	Boobialla
<i>Pittosporum revolutum</i>	Rough Fruited Pittosporum
<i>Rapanea howittiana</i>	Brush Muttonwood
<i>Rhagodia candolleana</i>	Seaberry
<i>Trema aspera</i>	Native peach
<i>Westringia fruticosa</i>	Coastal Rosemary
UNDERSTOREY (grasses, herbs, climbers)	
Botanical	Common
<i>Lomandra longifolia</i>	Spiny Matt Rush
<i>Microlaena stipoides</i>	Weeping Grass
<i>Poa labillardieri</i>	Tussock Grass
<i>Hardenbergia violacea</i>	Running Postman
<i>Dianella spp.</i>	Flax Lily
<i>Gahnia spp.</i>	Sword Sedge
<i>Clematis aristata</i>	Old Man's Beard
<i>Crinum pedunculatum</i>	Swamp Lily

11. SITE WEED LIST

Noxious	Environmental	Control Method
<i>Chrysanthemoides monilifera Spp. rotunda</i> (Bitou Bush)		Manual and chemical control
<i>Asparagus asparagoides</i> (Bridal Vail Creeper)		Continue with biological control and monitor rust fungus

	<i>Aristea ecklonii</i> (Blue Star)	Manual and chemical control
	<i>Zantedeschia aethiopica</i> (Arum Lily)	Cut and paint (insure tubers are cut)
	<i>Lonicera japonica</i> (Japanese Honeysuckle)	Manual control and chemical control
	<i>Asparagus aethiopicus</i> (Asparagus Fern)	Manual crowning or chemical control
	<i>Bryophyllum delagoense</i> (Mother of Millions)	Manual removal of small infestations chemical control of larger infestations
	<i>Senna pendula</i> (Winter Senna)	Cut and paint larger plants and hand pull smaller plants
	<i>Chlorophytum comosum</i> (Spider Plant)	Manual and chemical control
	<i>Ehrharta erecta</i> (Panic Veldt Grass)	Chemical control

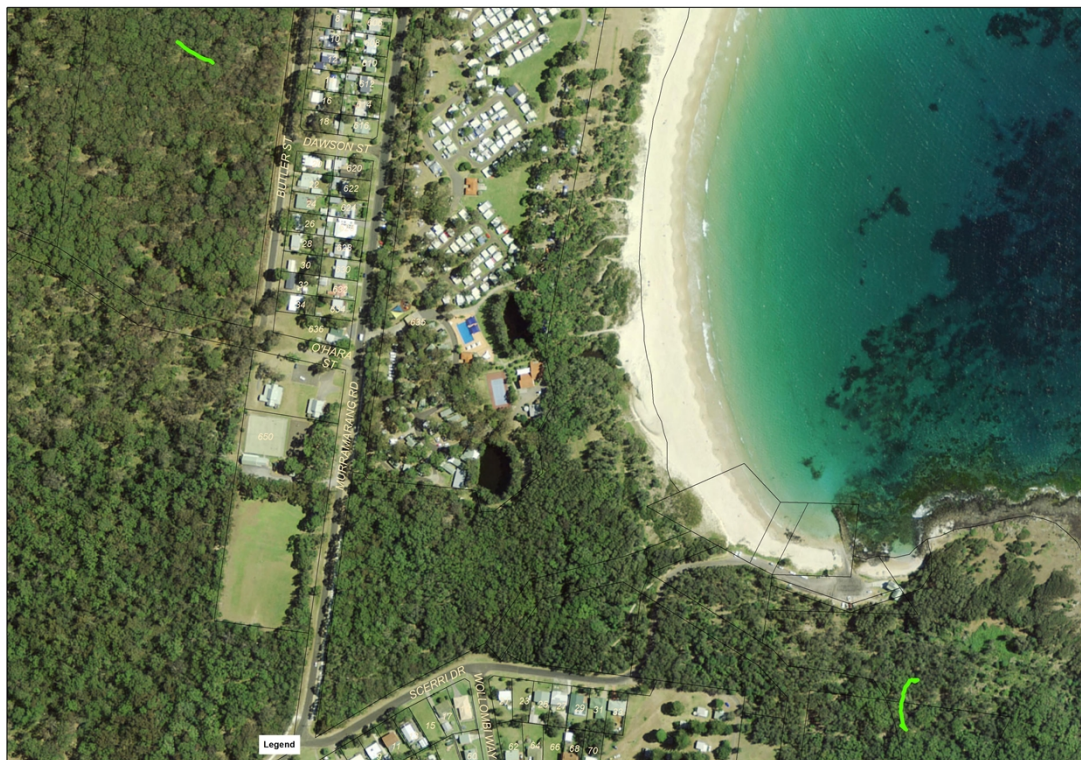
12. O'HARA HEADLAND BUSHCARE SITE SPECIES LIST (The following species were recorded at the site using a 50 metre long transect on 02.10.2015 see appendix for details)

OVERSTOREY TREES	
Botanical	Common
<i>Banksia integrifolia</i>	Coast Banksia
<i>Eucalyptus botryoides</i>	Bangalay
SHRUBS	
Botanical	Common
<i>Acmena smithii</i>	Lilli Pilli
<i>Breynia oblongifolia</i>	Coffee Bush
<i>Claoxylon australe</i>	Brittlewood
<i>Clerodendrum tomentosum</i>	Hairy Clerodendrum
<i>Eleocarpus reticulatus</i>	Blueberry Ash
<i>Ficus coronata</i>	Sandpaper Fig
<i>Glochidion ferdinandi</i>	Cheese Tree
<i>Livistona australis</i>	Cabbage Palm
<i>Monotoca elliptica</i>	Pidgeon Berry
<i>Myoporum acuminatum</i>	Boobiella
<i>Notelaea longifolia</i>	Tall Mock Olive
<i>Pittosporum revolutum</i>	Rough Fruited Pittosporum
<i>Pittosporum undulatum</i>	Native Daphne
<i>Rapanea howittiana</i>	Brush Muttonwood
<i>Solanum stelligerum</i>	Devils Needles
<i>Synoum glandulosum</i>	Scentless Rosewood
UNDERSTOREY (grasses, herbs, orchids)	
Botanical	Common
<i>Commelina cyanea</i>	Scurvy Weed
<i>Dichondra repens</i>	Kidney Weed
<i>Geranium homeanum</i>	Northern Cranesbill
<i>Lomandra longifolia</i>	Spiny Matt Rush
<i>Microlaena stipoides</i>	Weeping Grass
<i>Oplismenus aemulus</i>	Basket Grass
<i>Pteridium esculentum</i>	Bracken Fern
<i>Senecio linearifolius</i>	Native Fireweed
<i>Urtica incisa</i>	Stinging Nettle
UNDERSTOREY (vines & climbers)	
Botanical	Common
<i>Eustrephus latifolius</i>	Wombat Berry
<i>Hibbertia scandens</i>	Native Guinea Flower
<i>Marsdenia rostrata</i>	Common Milk Vine
<i>Morinda jasminoides</i>	Jasmine Morinda
<i>Parsonisa straminea</i>	Common Silkpod
<i>Stephania japonica</i>	Snake Vine

13. BUTLER ST CROWN RESERVE BUSHCARE SITE SPECIES LIST
 (The following species were recorded at the site using a 50 metre long transect on 02.10.2015)

OVERSTOREY TREES	
Botanical	Common
<i>Corymbia maculata</i>	Spotted Gum
<i>Eucalyptus longifolia</i>	Woollybutt
<i>Eucalyptus tereticornis</i>	Forest Red Gum
SHRUBS	
Botanical	Common
<i>Acacia mearnsii</i>	Black Wattle
<i>Casuarina glauca</i>	Swamp Oak
<i>Exocarpos cupressiformis</i>	Ballard Cherry
<i>Notelaea longifolia</i>	Tall Mock Olive
<i>Pittosporum undulatum</i>	Native Daphne
UNDERSTOREY (grasses, herbs, orchids)	
Botanical	Common
<i>Caladenia carnea</i>	Lady's Fingers
<i>Carex appressa</i>	Tall Sedge
<i>Centella asiatica</i>	Centella
<i>Dichondra repens</i>	Kidney Weed
<i>Imperata cylindrica</i>	Blady Grass
<i>Juncus usitatus</i>	Common Rush
<i>Lepidosperma laterale</i>	
<i>Leucopogon juniperinus</i>	Bearded Heath
<i>Lomandra longifolia</i>	Spiny Matt Rush
<i>Oplismenus aemulus</i>	Basket Grass
<i>Pittosporum multiflorum</i>	Orange Thorn
<i>Plectranthus parviflorus</i>	Cockspur Flower
<i>Poa affinis</i>	Tussock Grass
<i>Poa labillardieri</i>	Tussock Grass
UNDERSTOREY (vines & climbers)	
Botanical	Common
<i>Eustrephus latifolius</i>	Wombat Berry
<i>Geitonoplesium cymosum</i>	Scrambling Lily
<i>Glycine microphylla</i>	Love Creeper
<i>Tylophora barbata</i>	Tylophora

Appendix 1 – Location of 50 metre vegetation transects



50 Metre vegetation transects

Appendix 2 – Map showing the location of the existing Kioloa Beach - O'Hara Headland Walking Track system that is currently maintained by Shoalhaven Council

