



## DOT BUTLER CONSERVATION RESERVE BUSHCARE GROUP ACTION PLAN

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#### **RESERVE INFORMATION**

**Reserve:** Dot Butler Conservation Reserve

Reserve Number(s): Crown Reserve R87745 Council Reserve NKV132

Land Tenure: Crown (SCC has care, control and management)

Community Land Type: Reserve, Public Recreation



## 1. BUSHCARE GROUP GOALS

The goals of the Dot Butler Bushcare Group Action Plan are to:

- Learn about post-fire regeneration and the return of animals and communicate these learnings
- Enhance wildlife habitat
- Control weeds using environmentally and culturally sensitive methods
- Initiate and facilitate indigenous-led environmental and cultural activities.

# 2. SITE ACHIEVEMENTS TO DATE

Actions	Lessons Learnt
As the Dot Butler Reserve was burnt in the 2019-2020 bushfires, a small group of volunteers installed and managed feeding and drinking stations for any animals that survived.	For wildlife still on site after the Currowan bushfire (2019/20 summer), wildlife feeding is likely to have been important for subsequent recovery.
	Camera monitoring was successful in showing return of species post-fire. Cameras installed at feeding stations and other areas of the reserve detected the presence of wallabies, possums, wombats, bandicoots as well as a number of different bird species. Other sightings included a lace monitor and echidna.
	It was difficult to predict the food that would be eaten by particular species, and it was apparent that possums ate much of the bird seed while the birds preferred the fruit put out for possums.
	Some of the uneaten bird seed germinated but died off with no ongoing impact.
Nest boxes suitable for brush-tailed possums, ring-tailed	Placement of boxes in relation to the sun to avoid overheating is very important for occupation rates. The boxes that were occupied generally faced east. The only species found to use the boxes was the brush-tailed possum.
possums, and yellow-bellied gliders were installed after the bushfire.	Ongoing monitoring of nest boxes will be required.
	The Bushcare group benefited from participating in an Australian National University (ANU) study on nest box occupancy after bushfires. To conduct ongoing monitoring, the group needs the correct equipment for checking nest boxes systematically.

Transects have been established to monitor bandicoot activity within an area of the site thought to be likely to have bandicoot habitat and monitoring has commenced.	The group benefited from guidance on how to monitor bandicoot diggings and now has this practical experience.  After observing the correlation between diggings and fungi, it is thought that the importance of fungi in bandicoot survival needs further investigating.
The group monitored the return of native vegetation and weed regrowth with the benefit of a professional botanist.	Whilst there has been diversity of specialised growth following the bushfire, the extent of the recovery will take several years to assess and also varies across the site. Ongoing monitoring is needed, particularly to assess the effects of the very dense wattle regrowth.

## 3. DOT BUTLER BUSHCARE GROUP ACTION PLAN MAP



## 4. SHOALHAVEN BUSHCARE GROUP ACTIVITIES TABLE

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

GROUP ACTION	PRIORITY	METHOD	TIME
Set up transects for bandicoot survey and continue monitoring bandicoot diggings.	Н	Install 6 transects 200 m long  Count diggings along transects as often as feasible, note tree species and fungi associated with diggings where possible.	Ongoing
2. Weed control	M	Hand remove weeds as group moves through reserve to do other activities.	Ongoing
3. Monitor nest boxes	М	Develop and improve techniques to check for fauna utilising boxes.  Keep abreast of the latest information on the design of nest boxes and consider replacement or additional boxes.	Ongoing
Monitor regeneration including the effects of dense populations of <i>Acacia mearnsii</i> Black wattle.	M	Occasional inspection with a botanist/ecologist. Report to Council's Bushcare and Natural Areas staff.	Ongoing

GROUP ACTION	PRIORITY	METHOD	TIME
Community Engagement, Citizen Science			
Communicate with the Kangaroo Valley community and		Encourage community members to join in activities.	Ongoing
more broadly in the Shoalhaven about the importance of protecting remaining local bushland and local endangered species.	Н	Open dialogue with local Indigenous communities and Elders about cultural and natural heritage on the site.	
		Encourage members to use the app.	Ongoing
Use iNaturalist to record findings.	H	Participate in citizen science using information gathered in the app.	
3. Engage with other local Bushcare groups, landholders and environmental organisations regarding a shared approach to protecting the ecosystems found on the Dot Butler Reserve and adjoining properties in Kangaroo Valley.	Н	Reach out to members from the Kangaroo Valley Environment Group, Friends of the Brush-tailed Rockwallaby and neighbours occupying the wildlife corridor adjoining and running east of the Dot Butler Reserve.	Ongoing
4. Research, report on, and initiate actions to reduce the native fauna road toll along Mt Scanzi Road.	Н	Engage with residents and frequent road users. Under the guidance of Council staff, initiate a project, possibly with a university, to study the role of vegetation and landforms along roadsides regarding the frequency of wildlife road deaths.	ongoing

#### 5. BUSHCARE GROUP WORKPLACE HEALTH AND SAFETY

New volunteers must register with Shoalhaven City Council and comply with the Volunteer Induction Handbook.

Based on the activities included in this action plan, a new site hazard and risk assessment will be completed. Volunteers are to be inducted on this revised risk assessment with the adoption of this plan. The 'site hazard and risk assessment' is to be revised as needed, for example, upon the identification of a new hazard, or of a new control measure for an existing hazard.

- **6. COUNCIL SUPPORT**Supply tools, herbicide, and materials within the constraints of budget
  - Purchase of pole camera for monitoring nest boxes
  - Training and technical advice
  - Administration support
  - Assistance with grant applications, administration, and management.
  - Assistance with events
  - Assistance from Council's Bush Regenerator staff as resources allow

#### 7. POSSIBLE FUTURE FUNDING

The following projects will be considered as funding opportunities become available:

Project		
Liaise with local Indigenous groups to learn about cultural burns.		
Employ a drone expert for survey work.		
Trial different strategies for alternate habitat for local fauna.		
Identify if the Dot Butler Reserve is still habitat for the yellow-bellied glider given there are four records for the species on the reserve.		
Research and initiate trials regarding the effect of <i>Acacia mearnsii</i> (black wattle) in regenerating forests.		

#### 8. REVIEW

This plan will be reviewed six years from its adoption but can be reviewed sooner if agreed.

## 9. REGIONAL MANAGEMENT PLANS OR STRATEGIES

Name of document	Year it was produced	Produced by
Bushcare/ Parkcare Policy	2018	Shoalhaven City Council
Local Strategic plan 2016-2021	2016	South East Local Land Services
Generic Community Land Plan of Management - Natural Areas	Revised 2016	Shoalhaven City Council
Foreshore Reserves Policy	2005	Shoalhaven City Council

## 10. RECOMMENDED REVEGETATION SPECIES

Currently there is no need for any revegetation as it is regenerating naturally after the 2019/20 Currowan Bushfire.

## 11. BUSHCARE SITE WEED LIST

The following weeds have been recorded on the site courtesy of Kevin Mills. The abundance of these weeds is low.

Ageratina riparia	Mistflower
Argentina Adenophora	Crofton weed
Bidens Pilosa	Cobbler's pegs
Cardamine hirsuta	Common bittercress
Cenchrus clandestinus	Kikuyu grass
Cirsium vulgare	Spear thistle
Cyperus eragrostis	Umbrella sedge
Erigeron bonariense	Tall fleabane
Facelis retusa	Annual trampweed
Gamochaeta americana	American cudweed
Gamochaeta calviceps	Cudweed
Hypochaeris radicata	Flatweed
Isolepis prolifera	Budding club-rush
Physalis peruviana	Cape gooseberry
Phytolacca octrandra	Inkweed
Rubus sp.	Blackberry
Senecio madagascariensis	Fireweed
Sida rhombifolia	Paddy's lucerne
Solanum chenopodioides	Whitetip nightshade
Solanum mauritianum	Wild tobacco bush
Solanum nigrum	Black nightshade

Sonchus oleraceus	Common sowthistle
Tagetes minuta	Stinking roger
Verbena bonariensis	Purpletop
Verbena officinalis	Common verbena

## 12. DOT BUTLER RESERVE PLANT COMMUNITIES

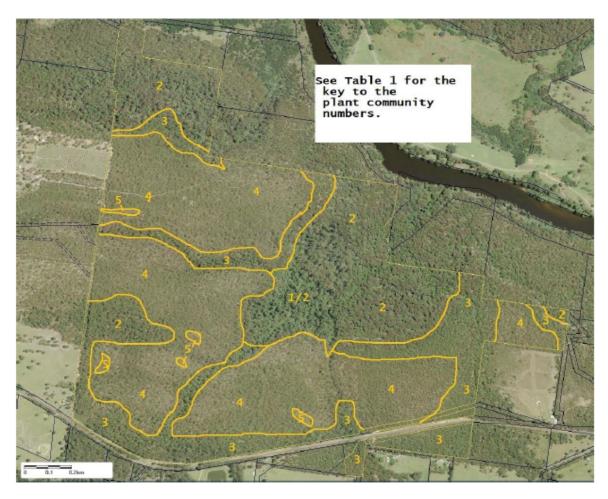


Figure 1 Dot Bulter Reserve, showing plant community distribution

# **Table 1 Plant communities at the Dot Butler Reserve**

Name	Key species – botanical name	Common name	Occurrence
Ironwood rainforest	Backhousia myrtifolia Ceratopetalum apetalum Tristaniopsis laurina	Ironwood Coachwood Watergum	Gullies and creek sides
2) Turpentine – Peppermint	Syncarpia glomulifera Angophora floribunda Eucalyptus piperita	Turpentine Rough barked apple Sydney peppermint	Gullies and deeper soils on ridges
3) Grey gum – Bloodwood – stringybark forest	Eucalyptus globoidea Corymbia gummifera Eucalyptus punctata Eucalyptus piperita	White stringybark Red bloodwood Grey gum Sydney peppermint	Deeper soils
4) Woodland/forest	Eucalyptus sclerophylla Eucalyptus punctata Corymbia gummifera	Hard leaved scribbly gum Grey gum Red bloodwood	Across broad ridges
5) Treeless heathland	Melaleuca thymifolia Baeckea brevifolia Callistemon linearis	Thyme honey-myrtle Short-leaf heath myrtle Narrow-leaved bottlebrush	Poorly drained shallow soils

# 13. BUSHCARE SITE SPECIES LIST

The following endemic species have been recorded on the site (Kevin Mills)

# **OVERSTOREY**

Botanical name	Common name
Acacia binervata	Two-veined hickory
Acacia irrorata	Green wattle
Acacia maidenii	Maiden's wattle
Acacia mearnsii	Black wattle
Angophora bakeri	Norrow-leaved apple
Angophora floribunda	Rough barked apple
Calandrinia pickeringii	Calandrinia
Casuarina cunninghamiana	River oak
Ceratopetalum apetalum	Coachwood
Ceratopetalum gummiferum	Christmas bush
Corymbia gummifera	Red bloodwood
Cryptocarya glaucescens	Native laural
Doryphora sassafras	Sassafras
Eucalyptus agglomerata	Blue-leaved stringybark
Eucalyptus globoidea	White stringybark
Eucalyptus paniculata	Grey ironbark
Eucalyptus pilularis	Blackbutt
Eucalyptus piperita	Sydney peppermint
Eucalyptus saligna x botryoides	Southern blue gum
Eucalyptus scias subsp. scias	Large-fruited red mahogany
Eucalyptus sclerophylla	Hard-leaved scribbly gum
Ficus coronata	Sandpaper fig
Ficus rubiginosa	Port Jackson fig
Lepidosperma laterale	Variable sword sedge
Livistona australis	Cabbage tree palm
Melicope micrococca	White Euodia
Polyscias murrayi	Pencil cedar
Syncarpia glomulifera	Turpentine
Synoum glandulosum	Rosewood
Syzygium smithii	Lilly pilly
Tristaniopsis laurina	Water gum

# **MID-STOREY**

# Shrubs and small trees

Shrubs and small trees		
Botanical name	Common name	
Acacia longifolia	Golden wattle	
Acacia suaveolens	Sweet wattle	
Acacia terminalis	Sunshine wattle	
Acacia ulicifolia	Prickly moses	
Allocasuarina littoralis	Black she oak	
Androcalva fraseri	Brush kurrajong	
Aotus ericoides	Common aotus	
Backhousia myrtifolia	Ironwood	
Baekea brevifolia	Short-leaf heath myrtle	
Banksia paludosa	Swamp banksia	
Banksia serrata	Old man banksia	
Banksia spinulosa	Hairpin banksia	
Bossiaea ensata	Sword bossiaea	
Bossiaea heterophylla	Variable bossiaea	
Breynia oblongifolia	Coffee bush	
Bursaria spinosa	blackthorn	
Callistemon linearis	Narrow-leaved bottlebrush	
Calomeria amaranthoides	Plume bush	
Carex appressa	Tall sedge	
Cassinia aculeata	Common cassina	
Claoxyon australe	Brittlewood	
Clerodendrum tomentosum	Hairy clerodendrum	
Coronidium elatum	Tall everlasting	
Cryptandra amara	Bitter cryptandra	
Daviesia ulicifolia	Gorse bitter pea	
Dianella caerulea	Flax-lily	
Dillwynia ramosissima	Bushy parrot pea	
Dillwynia retorta	Twisted parrot pea	
Diospyros australis	Black plum	
Dodonaea tripetra	Large-leaved hop-bush	
Dubosia myoporoides	Corkwood	
Elaeocarpus reticulatus	Blueberry ash	
Epacris pulchella	Heath	
Eucalyptus punctata	Grey gum	
Eupomatia laurina	bolwarra	
Exocarpos strictus	Pale-fruited ballart	
Gahnia clarkei	Tall saw sedge	
Glochidion ferdinandi	Cheese tree	
Goodia lotifolia	Golden tips	
Grevillea linearifolia	Grevillea	
Hakea laevipes	Finger hakea	
Hakea sericea	Silky hakea	
Homalanthus populifolius	Bleeding heart	
Hovea longifolia	Rusty-pod hovea	
Howittia trilocularis	Blue howitta	
Indigofera australis	Austral indigo	
Juncus usitatus	Common rush	

Botanical name	Common name
Kunzea ambigua	White kunzea
Lambertia Formosa	Mountain devil
Leptospermum continentale	Prickly teatree
Leptospermum parvifolium	Small leaved teatree
Leptospermum polygalifolium	Yellow teatree
Leptospermum trinervium	Paperbark teatree
Leucopogon juniperinus	Juniper beard-heath
Lomatia ilicifolia	Holly Lomatia
Ludwigia peploides spp montevidensis	Water primrose
Melaleuca hypericifolia	Red-flowered paperpark
Melaleuca linariifolia	Norrow-leaved paperbark
Melaleuca thymifolia	Thyme honey-myrtle
Mirbelia rubifolia	Heathland mirbelia
Monotoca scoparia	Prickly broom-heath
Myrsine howittiana	Brush muttonwood
Notelaea venosa	Native olive
Olearia viscidula	Brush daisy-bush
Opercularia aspera	Thin stinkweed
Ozothamnus diosmifolius	Everlasting
Persicaria lapathifolia	Pale knotweed
Persoonia levis	Broad-leaved geebung
Persoonia linearis	Narrow-leaved geebung
Persoonia mollis	Soft geebung
Petrophile pendunculata	Stalked conesticks
Phyllanthus gunnii	Shrubby spurge
Pittosporum revolutum	Rough-fruited pittosporum
Pittosporum undulatum	Sweet pittosporum
Platysace lanceolata	Shrubby platysace
Platysace linearifolia	Norrow-leaved platysace
Podolobium ilicifolium	Prickly shaggy pea
Pomaderris aspera	Hazel Pomaderris
Pomaderris elliptica	Pomaderris
Pomaderris ferruginea	Rusty Pomaderris
Pomax umbellata	Pomax
Prostanthera incana	Velvet mint-bush
Pultenaea daphnoides	Large-leaved bush pea
Pultenaea villosa	Bronze bush pea
Ricinocarpos pinifolius	Wedding bush
Sannantha pluriflora	Tall baeckea
Schoenus villosus	Hairy bog-rush
Senna barronfieldii	senna
Solanum Americanum	Glossy nightshade
Solanum aviculare	Kangaroo apple
Solanum celatum	Nightshade
Solanum pungetium	Jagged nightshade
Solanum vescum	Kangaroo apple
Stenocarpus salignus	Scrub beefwood
Tasmannia insipida	Brush pepperbush
Trema tomentosa var. aspera	Native peach

Botanical name	Common name
Tristaniopsis collina	Mountain water gum
Zieria smithii	Sandfly zieria

## **Ferns**

Botanical	Common
Alsophila australis subsp.	Australis rough tree fern
Calochlaena dubia	Common ground fern
Diplazium austral	Austral lady fern
Histiopteris incisa	Bat's wing fern
Hypolepis glandulifera	Downy ground fern
Hypolepis muelleri	Harsh ground fern
Pteris tremula	Tender brake
Sphaeropteris cooperi	Straw tree fern
Sticherus flabellatus	Umbrella fern
Todea Barbara	King fern

# **UNDERSTORY**

Botanical name	Common name
Amperea xiphoclada	Broom spurge
Aneilama acuminatum	Pointed aneilema
Aneilema biflorum	aneilema
Caustis flexuosa	Curley wig
Centella asiatica	Indian pennywort
Commelina cyanea	Scurvy weed
Coronidium scorpioides	Button everlasting
Crassula sieberiana	Stonecrop
Cyathochaeta diandra	Sedge
Cyperus polystachyos	Sedge
Dichondra repens	Kidney weed
Drosera spathulata	Rosy sundew
Echinopogon caespitosus	Tufted hedge grass
Entolasia marginata	Bordered panic
Entolasia stricta	Wiry panic
Eragrostis sp.	Love grass
Eustrephus latifolius	Wombat berry
Geranium homeanum	Native crane's- bill
Gonocarpus micranthus	Creeping raspwort
Gonocarpus teucrioides	Germander raspwort
Goodenia bellidifolia	Rocket goodenia
Goodenia hederacea	Ivy goodenia
Goodenia heterophylla	Variable goodenia
Goodenia ovata	Hop goodenia
Gratiola penduculata	Brookweed
Haemodorum corymbosum	Rush leaved blood-lilly
Helichrysum leucopsideum	Satin everlasting
Hibbertia aspera	Rough guinea flower
Hibbertia empertrifolia	Guinea flower
Hibbertia riparia	Erect guinea flower
Hydrocotyle geraniifolia	Water pennywort

Botanical name	Common name
Hydrocotyle laxiflora	Stinking pennywort
Hypericum gramineum	Small St John's wort
Isotoma axillaris	Rock isotoma
Juncus planifolius	Common rush
Laxmannia gracilis	Slender wire-lily
Lepyrodia scariosa	Lepyrodia
Leucopogon affinis	Lance beard-heath
Lobelia purpuranscens	whiteroot
Lomandra confertifolia	Mat-rush
Lomandra longifolia	Spiny mat-rush
Lomandra multiflora	Many-flowered mat-rush
Lomandra obliqua	Twisted mat-rush
Microlaena stipoides	Weeping grass
Mitrasacme polymorpha	Varied miterwort
Oplismenus hirtellus	Basket grass
Oxalis exilis	Oxalis
Pandorea pandorana	Wonga vine
Panicum simile	Panic grass
Patersonia sericea	Silky purple flag
Persicaria decipiens	Slender knotweed
Persicaria hydropiper	Water pepper
Phyllanthus hirtellus	Thyme spurge
Pimelea linifolia	Slender rice-flower
Plectranthus parviflorus	Cockspur flower
Poranthera corymbosa	Clustered poranthera
Poranthera microphylla	Small poranthera
Pseuderanthemum variabile	Pastel flower
Ptilothrix deusta	sedge
Pultenaea linophylla	Halo bush pea
Scaevola albida	Pale fan flower
Senecio bipinnatisectus	Commonwealth weed
Senecio linearifolius	Fireweed grounsel
Sigesbeckia orientalis	Indian weed
Stackhousia monogyna	Creamy stackhousia
Stellaria flaccida	Forest starwort
Stylidium graminifolium	Grass triggerplant
Stylidium laricifolium	Giant trigger plant
Tetratheca thymifolia	Pink bells
Themeda australis	Kangaroo grass
Urtica incisa	Stinging nettle
Veronica calycina	Cup speedwell
Viola hederacea	Native violet
Wahlenbergia gracilis	Australian bluebell
Xanthorrhoea concava	Grass tree
Xanthorrhoea resinifera	Grass tree
Xanthosia tridentata	Xanthosia
Zieria Pilosa	Hairy zieria

## **Ferns**

Botanical	Common
Adiantum aethiopicum	Common maidenhair fern
Adiantum hisidulum	Rough maidenhair
Asplenium flabellifolium	Necklace fern
Asplenium polyodon	Sickle spleenwort
Cheilanthes distans	Bristly cloak fern
Cheilanthes sieberi	Mulga fern
Christella denata	Binung fern
Davallia pyxidata	Hares foot fern
Doodia aspera	Prickly rasp fern
Doodia caudata	Small rasp fern
Hymenophyllaceae cupressiforme	Common filmy fern
Lindsaea linearis	Screw fern
Lindsaea microphylla	Lacy wedge fern
Lomaria nuda	Fishbone water fern
Macrozamia communis	Burrawang
Oceaniopteris cartiaginea	Gristle fern
Pellaea calidirupium	Hot rock fern
Pellaea falcata	Sickle fern
Pteridium esculentum	Common bracken
Pyrrosia rupestris	Rock felt fern
Schizaea bifida	Forked combed fern

# **Orchids**

Botanical name	Common name
Acianthus fornicates	Large mosquito orchid
Caladenia spp.	White fingers
Corybas aconitiflorus	Common helmet orchid
Cryptostylis subulata	Large tongue orchid
Dendrobium linguiforme	Tongue orchid
Dendrobium speciosum	Rock orchid
Dendrobium striolatum	Streaked rock orchid
Eriochilus cucllatus	Parson's bands
Liparis reflexa	Yellow rock orchid
Pectorrhiza tridentata	Tangle orchid
Pterostylis sp.	Greenhood

# Vines and Epiphytes

Botanical name	Common name
Billardiera mutabilis	Climbing apple berry
Calystegia marginata	Forest bindweed
Cassytha glabella	Slender dodder-laurel
Cayratia clematidea	Slender grape
Cissus hypoglauca	Water vine
Clematis aristate	Traveller's joy
Convolvulus erubescens	Australian bindweed
Geitonoplesium cymosum	Scrambling lily
Glycine tabacina	Vanilla glycine
Gynochthodes jasminoides	Sweet morinda
Hardenbergia violacea	Native sarsaparilla
Hibbertia dentata	Twining guinea flower
Hibbertia scandens	Climbing guinea flower
Kennedia prostrata	Scarlet coral pea
Kennedia rubicunda	Dusky coral pea
Marsdenia rostrata	Common milk vine
Marsdenia sauveolens	Scented marsdenia
Parsonsia straminea	Monkey-rope vine
Passiflora herbertiana	Native passionfruit
Polymeria calycina	Swamp bind weed
Ripogonum album	White supplejack
Rubus rosifolius	Rose-leaf bramble
Smilax austral	Austral sarsaparilla
Smilax glyciphylla	Thornless sarsaparilla
Stephania japonica	Snake vine
Tylophora barbata	Bearded tylophora