Castle Cove Park Bushland Actions

Priorities will be given to programs for the long term benefit to the reserve. Natural assets at greatest risk will be given priority to avert irreversible deterioration. All measures cannot be implemented simultaneously - resources may not be available or it may not be appropriate.

- 1. Bushland Regeneration Contractor to incrementally remove weed tree species Camphor Laurel, and Ochna then weedd vine Japanese Honeysuckle to allow native Cheese Tree and Sweet Pittosporum to establish. As native canopy re-establishes and develops remove understorey weeds Lantana, Asparagus Fern, and Fishbone Fern to assist regeneration.
- 2. Willoughby City Council's (WCC) Bushcare Ecological Burn Team to continue follow-up weeding with assistance from the Castle Cove Park Bushcare group required after burn.
- Castle Cove Park Bushcare group to work in higher quality bushland expanding into adjoining areas, working 3. from good bush to bad bush.
- WCC bushland staff to monitor and maintain grass swale so stormwater moves in one direction. Investiggate 4 options for sediement capture.
- 5. WCC's Bushcare Ecological Burn Team to remove woody weeds including Privets, Asparagus Fern and Ochna in heavily infested bushland adjacent to heathland vegetation on large rock outcrop.
- 6. Mowing Contractor to maintain fire access trail/Asset Protection Zone.
- Bushland Regeneration Contractor to complete maintenance sweeps along Headland Road edge, woody 7 weed removal and and infill planting to add plant diversity.
- Bushland Regeneration Contractor to plant local indigenous plants into the degraded fill embankment of 8 the sports field to stabilise the bank and improve plant diversity.
- 9. Bushland Regeneration Contractor to revegetate severely degraded embankment around stormwater outlet point that has been disturbed after weed removal work.
- 10. Bushland Regeneration Contractor to plant local indigenous plants to re-establish a stable understorey that has become absent over time.
- 11. WCC Bushland Staff to regularly monitor stormwater lines and swale to ensure that water continues to flow into defined like to protect adjacent properties from excess water.
- 12. Bushland Regeneration Contractor to maintain high quality rainforest canopy by targeting Camphor Laurel and Privets before they establish. Also complete maintenance sweeps targeting woody weeds.
- 13. Roving 'Northbridge & Castle Cove' Bushcare Group to continue to work in accordance with Bushcare Action Plan targeting Trad and Fishbone Fern.
- 14. WCC Bushland Staff to regularly inspect all stormwater lines entering the Park to ensure efficient water movement and protection of natural assets adjoining properties and recreation elements. 15. Bushland Regeneration Contractor to maintain drainage swale.

18)

(1)

200

(16)

3

(2)

(3)

(15)

(5)

- 16. Natural Assets Officer and Bushland Community Liaison Officer to design and install bushland interpretive signs in the children's playground describing the importance of native plants, local waterways, indigenous culture, hazard reduction burns, wildlife corridors and the bushcare volunteer program.
- 17. Monitor properties adjacent to Park for disturbances to native vegetation Report offences to Council Compliance Unit for action.
- 18. Council will maintain the bike track including established safety measures.

100



RESERVE ACTION PLAN CASTLE COVE PARK



Plan details

Status:	Final
Prepared by:	N. Yu
Drawn by:	N. Prasad
Date printed:	12/05/2021
Approximate Scale:	1:2000 on A3

Legend

12)

8

(15)

 $\overline{7}$

16 (12)
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\bigtriangledown
35

Property number
Action plan activity
Stormwater node
Approximate fire hydrant location
5m contours
Stormwater network - Underground *
Stormwater network - Overground / Unknown *
Bush track / Path *
WCC LGA boundary
Property boundary
Reserve / bushland
Council buch regeneration contractor

Council bush regeneration contractors BushCare group Council Bushcare Ecological Burn Team

The accuracy of this data is not guaranteed and must be erified prior to use.

<u>References</u>

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Castle Cove Park Bushland Reserve Action Plan

Reserve Profile

Castle Cove Park is a 6.2 hectare multi-functional recreational and bushland reserve located in Castle Cove. Recreational elements consist of a sports field, pavilion, BBQ and picnic facilities, children's playground, basketball half court, outdoor fitness equipment, and a BMX track that are all focussed in the centre of the Park. Surrounding these elements to the north, south and east is 4.1 hectares of bushland. The Park is bounded by Headland Rd to the east. Holly St to the west and private properties to the north and south. This Reserve Action Plan is for management of bushland only, for the next five years.

The Park's highest point is 85 metres above sea level along the southern boundary. From here the land gently slopes downwards past the sports field close to the northern boundary where there is a steep rock ledge. Here the height drops to 60 metres and continues down to 30 metres at the northern boundary.

Multiple stormwater lines run into the Park at different locations with three major lines connecting close to the northern boundary that finally drain into Middle Harbour.

There is a gated fire trail behind properties along the southern boundary that allows access into the Park from Holly St, however there are no formal walking tracks through bushland. The Park is dominated by Hawkesbury Sandstone with large rock outcrops present south of the basketball half court and in bushland adjacent to Headland Rd.

PLANT COMMUNITY: Sydney North Exposed Sandstone Woodland [S_DSF11] exists at the Southern end and in a small area to the north of the park. It is characterised by Corymbia gummifera, Eucalyptus haemastoma, Banksia serrata, Angophora Costata and Eucalyptus umbra.

HABITAT: The gully forest habitat on the northern side of the sporting fields consists of large eucalypt trees with hollows and also a dense area of Allocasuarina that has reduced mid-storey and ground covers. There is also a tall patch of bamboo in this northern section. Vegetation along the eastern boundary with Headland Rd is open woodland with a mixture of trees and some hollows. The understorey is better developed here and there are rock outcrops for invertebrates. These rock outcrops continue to the south with a large area immediately behind the basketball court. The open woodland vegetation community also continues providing habitat for birds, reptiles and mammals.

Statement of Significance

Castle Cove Park is classified as bushland as defined in State Environmental Planning Policy No 19 (*Vol 1, 1.4), and is protected under State and Commonwealth Legislation (*Vol 1, 1.5.2). It is zoned RE1 Public Recreation in the Willoughby Local Environment Plan (WLEP) 2012.

Castle Cove Park is an important area of recreation for local and district residents. It provides open space where sports can be played and facilities where the community can meet and socialise. The sports field is a dog off-leash area between the hours of 3pm and 11am when not used by sports teams.

ABORIGINAL CULTURAL SIGNIFICANCE: The Gamaragal clan are the original custodians of this area. There are no Aboriginal heritage sites recorded in the Park but the reserve is in close proximity to H.D. Robb and Explosives Reserves which do contain significant rock ledges and midden sites.

NATURAL HERITAGE SIGNIFICANCE: Castle Cove Park forms part of an important wildlife corridor connects to Council's larger bushland reserve system that runs along the much of Middle Harbour foreshore for native fauna to migrate to. The moist open woodland vegetation provides habitat for a variety of native fauna such as the Satin Bowerbird.

HISTORIC CULTURAL SIGNIFICANCE: The history of Castle Cove started in the 1920s when the Greater Sydney Development Association Ltd purchased three large areas of land that included Castlecrag, Middle Cove and Castle Cove. However it wasn't until 1954 that Castle Cove became a suburb when the Hooker Corporation took control of the land and began work on two real estate developments. Castle Cove Park was then given to Council in 1955 as a public gardenand recreational space. A further area of 0.5 hectares was added to the lower end of the Park in 1964 and the pavilion was constructed in 1967. The nearby Golf Course was built on land owned by Burley Griffin's Greater Sydney Development Association Ltd in 1924

HABITAT SIGNIFICANCE: Castle Cove Park is a link within a continuous chain of bushland reserves along the foreshores of Middle Harbour. It is important for the movement of wildlife moving north-south and is in close proximity to Garigal National Park. Significant species like Bandicoots, Lyrebirds, and Swamp wallabies utilise the Park to pass from the national park through to Willoughby. The periodically wet drainage lines that are below sandstone ridges in the park provide optimal habitat for the vulnerably listed Red-crowned Toadlet.

Reserve Impacts

Bushland in the Park is greatly impacted by drainage, eutrophication and weed invasion from the sports field and areas of recreation. There is a large network of stormwater and sewer lines in and along the perimeter of the Park which results in excess water and nutrients entering bushland. Four stormwater lines from Headland Rd and four from Holly St enter the Park. Discharged water from swimming pools, particularly from houses off Kendall and Headland Roads compounds this problem.

Large non-indigenous native trees were planted around the perimeter of the Park when it was created. Monitoring around these trees is needed to ensure that seedlings do not establish.

Other impacts include bush vandalism, construction of cubby houses, unauthorised vegetation removal in bushland, dumping of garden waste and encroachments by private properties.

ENCROACHMENTS: There are eight recorded encroachments into the Park. 9A Holly St is an extension of garden beds; 11 Holly St is a clothes hoist and wire fence extension; 13 Holly St an extension of lawn and fence, 9 Headland Rd is an extension of lawn, clearing/poisoning of vegetation and creation of a rock wall; 11 Headland Road is a pool extension; 19 Headland Rd has many garden beds and extensive lawn; 21 Headland Rd has large vegetable garden beds, and 27 Headland Rd is a large extension of lawn with an outdoor setting

Wildlife Habitat Issues

Issues for wildlife include the large edge effects and the disruption of the woodland canopy caused by the playing field and recreation areas. Excess water entering the site via stormwater impacts on vegetation communities and available wildlife habitat. Light towers on the playing fields and street lights from Holly St and Headland Rd cause light pollution and disturbances. The Park is small in size but is crucial as previously mentioned as a wildlife linkage to other significant bushland areas.

Sporting fields are a dog off leash area and there are potential issues with dogs wandering into bushland and disturbing wildlife

Achievements

Drainage and path upgrade of the sports field have been installed and local native plant species have been planted in the drainage swale between the path and bushland.

Improvements to access have been made between Headland Road and the trail.

A prescribed burn was completed in 2019. Follow-up hand weeding by WCC Bushcare Ecological Burn team and the Castle Cove Park Bushcare group have significantly reduced the weeds.

The Bushcare group has also been working in bushland south of the sporting field since 1996. The Bush regeneration work carried out by volunteers and contractors has improved native plant cover in areas of the Park

Bushland Management Goals

To This bushland Reserve Action Plan has identified the following management aims from the Urban Bushland Plan of Management 2014 as priority objectives:

5.3b: To create and or maintain conditions in which creek and drainage lines are protected from increased erosion and/or sedimentation due to urban impacts.

5.4b: To maintain the integrity of bushland reserves through the reduction of encroachments and other boundary impacts

6.2f: To preserve and increase ecological links across the LGA and regionally to assist the movement of fauna.

6.2g: Maintain natural habitat formations and supplement with manufactured structures where natural habitat has been depleted.

6.3b: To implement weed control programs which are based on regeneration and restoration principles and which increase bushland resilience to further weed infestation.

7.1g: To manage fire such that the fire regime and implementation of the burn is beneficial to flora and fauna diversity and habitat.

10.1b: To ensure that leases and licences for activities undertaken in or adjoining, or impacting on, bushland areas are compatible with the sustainable management of bushland

Bushland Management – General Principles and Actions

- a. Bush regeneration is a long term process. Staged weed removal is required to ensure establishment of indigenous native plant communities and provide habitat protection for local wildlife. Work should proceed from good bush to degraded areas. Spraying with herbicide is a last-resort approach to weed removal. Techniques conducive to regeneration, including flame weeding, are preferred. If possible, weed refuse and natural debris composted on-site.
- b. To maintain the genetic integrity of native vegetation all plant material if used for supplementary plantings is to be locally sourced, if possible. (*Vol. 1, 6.3r). When natural regeneration processes are deemed inadequate, fabrication to proceed of a plant community to mimic a suitable natural community using local provenance species. Standing dead trees and forest litter (including logs/branches) to be kept for wildlife habitat unless deemed a risk to safety.
- c. Landscape planting is to imitate nearby natural ecosystems.
- d. Identify endangered, rare or locally rare species and preserve their populations.
- e. As far as possible, all weed refuse to be composted on-site, and other natural debris to be retained on site, according to Council's principles of ecological sustainability
- f. Phytophthora cinnamomi (a root rot pathogen) is listed as a key threatening process in NSW. Bushland workers are to use hygiene protocols to minimise risk.
- g. Keep dead standing trees and forest litter (including logs and branches) for habitat purposes. Removal of dead wood and dead trees has been listed by the NSW Government as a Key Threatening Process.
- h. Monitor, maintain and enhance vegetation connectivity for wildlife habitat within the reserve and reserve networks
- i. Bushfire management will be achieved through implementation of a strategic hazard reduction program consistent with the Bushfire Risk Management Plan. Encourage the community to report wildlife sightings via the Wildlife Watch Program.
- j. Species diversity will be maintained by an ecological burn program in a mosaic pattern to retain good areas of habitat. (*Vol 1, 7,1g).
- k. Monitor and protect Aboriginal cultural heritage sites. Bushland staff to notify Aboriginal Heritage Tall trees and shrubs growing under electricity wires to be monitored and replaced gradually with lower growing species.
- I. The Wildlife Watch program involves the community in meaningful surveys that help protect and preserve the indigenous animal population (*Vol 1, 6.2.3).
- m. Continue to monitor wildlife needs and supplement natural habitat where necessary.
- n. Monitor feral animal activity. Implement appropriate management actions where necessary (*Vol 1, 6.2n).
- o. Monitor tree vandalism and removal within reserve and take swift and appropriate action
- p. Monitor and report all encroachments. Record on encroachment register. Encroachments are to be removed by residents at an appropriate time.

- impede access of feral animals.
- s. Remove old and no longer applicable signs and seating.

Animal List for North Arm Reserve

FERNS	Acacia
DENNSTAEDTIACEAE	Acacia
Histiopteris incisa	Acacia
Hypolepis muelleri	Acacia
Pteridium esculentum	GOODE
DICKSONIACEAE	Dampi
Calochlaena dubia	Goode
GLEICHENIACEAE	Scaevo
Gleichenia dicarpa	HALOR
LINDSAEACEAE	Gonoc
Lindsaea microphylla	LAMIAC
DICOTS	Chloar
APIACEAE	Hemig
Actinotus helianthi	MORAC
Actinotus minor	Ficus r
Platysace linearifolia	Myrta
Xanthosia tridentata	Acmer
ASTERACEAE	Angop
Ozothamnus diosmifolius	Angop
BAUERACEAE	Baeck
Bauera rubioides	Darwir
BIGNONIACEAE	Corvm
Pandorea pandorana	Eucaly
	Eucaly
Allocasuarina distyla	Eucaly
Allocasuarina littoralis	Kunze
	Kunze
Dichondra repens	Lentos
	Lentos
Callicoma serratifolia	PHYLLA
DROSERACEAE	Glochi
Drosera auriculata	PICROF
Drosera spathulata Labill	Micran
	PITTOS
	Billard
	Pittosr
Enacris longiflora	PROTE
Epacris microphylla	Banks
Leucopogon ericoides	Banks
	Banks
Sprengelia incarnata	Banks
	Conos
	Grovill
Homolonthus populifolius	Grevill
Deviloration birtollus	Grevill
	Grevill
PABACEAE FABOIDEAE	Grevin
Bossiaea scolopenaria	Накеа
	пакеа
riardenbergia Violacea	Lambe
novea linearis	Lomat
Pultenaea tuberculata	Persoc
FABACEAE-MIMOSOIDEAE	Persoc
Acacia linifolia	RUTAC
Acacia longitolia	Boroni

g. Monitor reserve track network for condition, maintenance and improvements. Formal tracks to be well defined. Informal and superfluous tracks to be closed to prevent damage to habitat and to

r. Monitor and protect cultural heritage sites within the reserve. Aboriginal heritage to be protected at all times. Bushland staff to notify Aboriginal Heritage Office of each burn to identify cultural sites and implement protection measures and postfire survey.

t. Castle Cove Park has a valuable role as an educational resource. Preserve and extend features used for educational purposes. Continue to inform the community of bushland issues by on-site educational activities and signage. Install, review and maintain appropriate signage (*Vol 1, 4.1c). u. Establish Photo Points to monitor the progress of reserve management actions.

v. Occasionally it may be necessary to remove trees in the reserve for ecological or safety reasons. w.Reserve Action Plan progress to be evaluated annually.

Castle Cove Park provides habitat for a number native animals. A list of these species can be found at: https://www.willoughby.nsw.gov.au/files/sharedassets/public/ecm/willoughby-council-website/publicationsreports-master-plans-strategies-action-plans/publications-reports-master-plans-strategies-action-plans/1native fauna of bantry bay sugarloaf bay catchments.pdf

Acacia myrtifolia	Boronia pinnata
Acacia suaveolens	Crowea saligna
Acacia terminalis	Phebalium squamulosum
Acacia ulicifolia	SAPINDACEAE
GOODENIACEAE	Dodonaea triquetra
Dampiera stricta	MONOCOTS
Goodenia stelligera	ARALIACEAE
Scaevola ramosissima	Hydrocotyle sp.
HALORAGACEAE	ANTHERICACEAE
Gonocarpus micranthus	Tricoryne sp.
LAMIACEAE	COMMELINACEAE
Chloanthes stoechadis	Aneilema acuminatum
Hemigenia purpurea	Aneilema biflorum
MORACEAE	Commelina cyanea
Ficus rubiginosa	CYPERACEAE
MYRTACEAE	Caustis pentandra
Acmena smithii	Cyperus polystachyos
Angophora costata	Gahnia sp.
Angophora hispida	Lepidosperma laterale
Baeckea imbricata	HALORAGACEAE
Darwinia fascicularis	Gonocarpus teucrioides
Corymbia gummifera	IRIDACEAE
Eucalyptus haemastoma	Patersonia glabrata
Eucalyptus piperita	Patersonia sericea
Eucalyptus punctata	PHORMIACEAE
Kunzea ambigua	Dianella caerulea
Kunzea capitata	Dianella revoluta
Leptospermum squarrosum	ANTHERICACEAE
Leptospermum trinervium	Tricoryne simplex
PHYLLANTHACEAE	LOMANDRACEAE
Glochidion ferdinandi	Lomandra glauca
PICRODENDRACEAE	Lomandra obliqua
Micrantheum ericoides	ORCHIDACEAE
PITTOSPORACEAE	Cryptostylis erecta
Billardiera scandens	Pterostylis acuminata
Pittosporum undulatum	POACEAE
PROTEACEAE	Agrostis avenacea
Banksia ericitolia	Dichelachne crinita
Banksia oblongifolia	Echinopogon caespitosus
Banksia serrata	Entolasia marginata
Banksia spinulosa	Entolasia stricta
	Imperata cylindrica
 Grevillea buxifolia	Microlaena stipoldes
Grevillea Inearitolia	Oplismenus impeciliis
	Rytidosperma tenuius
Grevillea speciosa	
 Hakea teretifolia	
I anda lei ell'Ulla	Smilacaceae
 Lamperua iorriosa	
Porsoonia lanceoloto	Xanthorrhoea arboroa
Persoonia levis	Xanthorrhoea sp
 RUTACEAE	
Boronia ledifolia	
Doronia icultolia	1

2021 - 2026