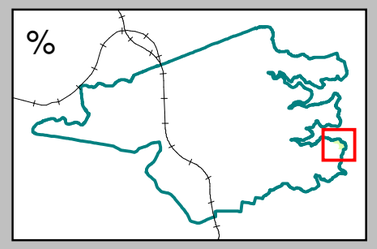
RESERVE ACTION PLAN
CLIVE PARK



Plan details

Status: Draft
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Approximate Scale: 1:1500

Legend

- 16 — Property number
- 12 — Action plan activity
- . — Stormwater node
- Approximate fire hydrant location
- D — Picnic table
- BBQ — Barbacue
- T — Toilet facilities
- 35 — 5m contours
- Stormwater network - Underground *
- Stormwater network - Overground / Unknown *
- Bush track / Unpaved path *
- WCC LGA boundary
- Property boundary
- Reserve / bushland
- Council staff regeneration site
- Council bush regeneration contractors
- Bushcare group
- Proposed prescribed burn area

Notes:
* The accuracy of this data is not guaranteed and must be verified prior to use.
\- Please check with Dial Before You Dig prior to any earth works.

The information contained herein has been provided in good faith. Effort has been made to ensure it's accuracy and completeness.

Willoughby City Council does not take any responsibility for errors or omissions nor any loss or damage that may result from the use of this information.

References
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Clive Park 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. Clive Park Bushcare group to continue to work in accordance with Bushcare Action Plan. Group to complete post fire weeding after controlled burn.
2. WCC Bushland Regeneration Team to remove woody weeds between foreshore and access road.
3. Bushland Regeneration Contractor to remove Anredera cordifolia in burn area below picnic area.
4. Bushland Regeneration Contractor to remove woods weeds along western side of reserve.
5. WCC Bushland Regeneration Team to continue maintenance weed removal around picnic area prior to and after the proposed controlled burn. Team to also conduct targeted staged removal of semi-mature Eucalyptus maculatas
6. Monitor the impact of stormwater erosion control flowing off the access road into bushland.
7. This action and work areas maybe subject to change in accordance with Council's updated Bushfire Risk Management Plan.
8. WCC Bushland Regeneration Team to continue targeting removal of annual and woody weeds and also non-indigenous native plants in revegetated area at corner of Coolawin and Sailors Bay Road. Line of site for traffic to be maintained at this corner and also at Park exit at the corner of Minimbah/Sailors Bay Road.
9. WCC Bushland Regeneration Team to periodically remove weeds along creek line targeting Tradescantia fluminensis and to manage the dominance of naïve Cissus hypoglauca.
10. Bushland Regeneration Contractor to remove Ochna serrulata and weedy vines in previous burn area in 2013.
11. WCC Bushland Regeneration Teams to continue maintenance weed removal targeting Corky Passionfruit Vine, Seaside Daisy, herbaceous and annual weeds. Reduce bushfire fuel load adjacent to properties
12. WCC Bushland Regeneration Team to complete annual maintenance weed removal sweep along foreshore targeting Asparagus Fern and Boneseed.
13. WCC Bushland Regeneration Teams to regularly monitor Aboriginal archaeological sites within the Park. Remove rubbish and report vandalism.
14. Continue with monitoring and control of feral and non-endemic fauna.
15. Supplement arboreal and terrestrial habitat with nest boxes, rocks and logs.

0 50 100
metres

Clive Park Bushland Reserve Action Plan

Reserve Profile

Clive Park is a 5.4 hectare foreshore bushland reserve located at the junction of the Sailors Bay and Flat Rock Creek catchments. The water of Middle Harbour bounds the Park to the north and east and contains Willoughby's only easily accessible sandy beach. The southern and western boundaries are roads: Sailors Bay, Minimbah and Coolawin, and two residential properties.

A creek that originates from a stormwater drain at the corner of Sailors Bay and Minimbah Roads runs through the centre of the reserve and exits at the beach into Middle Harbour.

Clive Park has numerous facilities including the Northbridge Sailing Club, Sea Scouts, a commercial boat shed, picnic areas with tables and barbeque facilities, playground equipment, toilet amenities, parking, water views, a small sandy beach and the remains of harbour swimming baths.

PLANT COMMUNITY: The western side of the reserve is Coastal Sandstone Gully Forest [S_DSF09], with dominant canopy species consisting of *Angophora costata*, *Corymbia gummifera*, and *Eucalyptus piperita*. The eastern side being Coastal Sandstone Foreshores Forest [S_DSF06], with dominant canopy species consisting of *Angophora costata*, *Banksia integrifolia* and *Eucalyptus piperita*.

HABITAT: Clive Park is dominated by dry sclerophyll forest and woodland type habitat. It also contains rocky foreshore habitat, drainage areas, dense shrub and mid-story, large hollow bearing trees, stags and rocky outcrops. Recent controlled burns have altered the look of the landscape in sections but important habitat features remain. The bushland has high ecological integrity, although it is intersected by two roads and numerous pathways.

Statement of Significance

The fundamental objective of the Reserve Action Plan is to conserve the significant heritage values of the Reserve. Clive 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 E2 Environmental Conservation in theWilloughby Local Environment Plan (WLEP) 2012.

ABORIGINAL CULTURAL SIGNIFICANCE: The Gamaragal clan originally occupied the area. Clive Park is an important area for Aboriginal people as it contains twenty six registered Aboriginal sites, including shelters, middens, burials, a fish trap, shelter art and engravings. However many sites have deteriorated over time. There is a prominent large rock engraving that has unfortunately been vandalised many times in the past. A replica of this engraving has been recreated by an indigenous artist at Mowbray Park, Lane Cove North.

NATURAL HERITAGE SIGNIFICANCE: Although being one of Council's smaller reserves, Clive Park provides habitat for a variety of flying fauna as well as remnant populations of small marsupials and reptiles. The reserve has been visited by locally significant and threatened species such as the Australian Boobook and Powerful Owl, respectively. This reserve also provides important habitat for some remnant populations of smaller species, such as Brown Antechinus, Skinks species as well as woodland birds. Its harbour foreshore also provides habitat for the threatened microbat species *Myotis macropus* and is visited by Little Penguins.

HISTORIC CULTURAL SIGNIFICANCE: After European settlement the first grant of Crown land in Northbridge was made to solicitor John Lewis Spencer in 1837. The grant of land was a total of 10 acres part of which Clive Park occupies today. The area later became the Albert Town Estate, one of the first attempts at residential development on the Northbridge peninsula. In 1907 Joseph Henry Evans Booker purchased the entire grant but Willoughby Council reclaimed the area before he died in 1914.

The area was named 'Clive Park' after Clive Norman Backhouse who was Mayor of Willoughby 1912-1913 and an alderman on Council 1911-1914.

There are still remnants of the old tidal pool next to the small sandy beach built in 1945 by Northbridge Volunteer Defence Corps Association.

Reserve Impacts

Clive Park is a high use reserve with easy access to bushland by roads and pathways. It has been a popular dumping spot for vegetation and waste particularly at the end of the access road to the sailing club. Rubbish is often found around picnic tables and barbeques, and dog faeces are commonly left in picnic areas, surrounding bush and along tracks.

Picnic areas also have lawns of couch and carpet grass, which is difficult to keep out of surrounding bushland. Clive Park is intersected by numerous tracks and roads which provide easy movement of weed seed around the reserve.

Clive Park bushland also has significant dieback and clearing in sections from tree vandalism, most likely from nearby residents for water views.

Other impacts upon the reserve are two private electricity lines that provide power for the sailing club, scout hall and boat shed. These power lines run through the reserve, necessitating pruning of trees and large shrubs.

The two residential properties that border Clive Park are potential weed sources. A high risk weed area is along the stormwater creekline that runs through the reserve. This area is subject to high nutrient and sediment loads which affect the surrounding native vegetation and provide favourable conditions for weeds.

ENCROACHMENTS: There are no recorded encroachments.

Wildlife Habitat Issues

Wildlife within Clive Park is impacted by a number of domestic and feral animals including dogs, cats, foxes and black rats.

The Park is fragmented by road access and footpaths and has some informal tracks that further reduce the integrity of bushland habitat. Tracks aid the movement of predators into bushland and allow other disturbance factors, which are the greatest threat to less-mobile wildlife.

There are abundant stags, a result of dieback and/or vandalism, which will be retained for their habitat value. Small tree hollows in live and dead trees are present, but there are few large trees and hollows, so supplementary nest boxes would be beneficial. As there is a lack of vegetation corridors and external recruitment of short range wildlife species is unlikely, vegetation should be managed to lessen the potential impact on these wildlife populations and prevent biodiversity loss.

Achievements

In 2018, Willoughby City Council (WCC) Bushfire Management Team prepared and conducted a controlled burn below the picnic area. Contractors now do post-fire weeding in the burn area.

WCC Bushfire Management Team were successful in maintaining fuel reduced zones along the foreshore in accordance with the Bushfire Risk Management Plan.

Works for upgrading the amenities of the park were completed. The works included replacement of a boom gate for a lockable bollard, resurfacing the footpaths, planting indigenous shrubs and groundcovers and installing an interpretive sign that highlights the park's natural features and the impact of dogs off leads.

Bushland Management Goals – Clive Park

This bushland reserve action plan for Clive Park has identified the following management aims from the Urban Bushland Plan of Management 2014 policy as priory objectives:

4.2c - Provide a high level of planning, support, training and supervision of existing and future community volunteers;

5.6c - To protect bushland viability through the control of activities which may cause permanent disturbance or change tobushland;
5.6e - To provide recreational facilities in bushland withoutsignificant adverse effects on flora and fauna;
6.2e - All management of vegetation will have regard to habitatValues;
6.2j - Control of domestic and feral animals that impact on nativefauna populations;
7.1b - To implement a strategic hazard reduction program;
7.1c - Strategic fuel management;
7.1g - To manage fire such that the fire regime and implementation of the burn is beneficial to flora and fauna, diversity and habitat;
8.1c - To plan and provide recreation facilities consistent with the need to facilitate public enjoyment of the bushland compatible with its conservation;
12.1b - To protect cultural heritage items and places in bushland.

General Principles and Actions – All Bushland Reserves

a. Bush regeneration is a long term process that requires staged weed removal to ensure establishment of native plant communities. Work should proceed from good to degraded areas with techniques that encourage regeneration, including flame weeding, rather than spraying herbicide.
b. If possible, all weed refuse and natural debris to be composted or retained on-site.
c. When natural regeneration is deemed inadequate, supplementary plantings to mimic local plant communities and landscapes will be used with local provenance species.
d. Standing dead trees and forest litter (including logs and branches) to be retained for wildlife habitat unless deemed a risk to public safety.
e. Monitor, maintain and enhance vegetation connectivity for wildlife habitat within the reserve and reserve networks.
f. *Phytophthera cinnamomi* (a root rot pathogen) is listed as a key threatening process in NSW and has been identified as a threat to a number of species. Bushland workers are to use hygiene protocols to minimise risk.
g. Report and record all reserve encroachments. Monitor for tree vandalism and/or removal within the reserve and report to Council Compliance for appropriate action.
h. Continue to monitor wildlife habitat requirements and supplement where necessary.
i. Monitor feral animal activity and implement appropriate management actions where necessary.
j. Bushfire management will be achieved through implementation of a strategic hazard reduction program consistent with the Bushfire Risk Management Plan.
k. Species diversity will be encouraged through an ecological burn program.
l. Monitor and protect cultural and Aboriginal heritage sites within the reserve at all times. Bushland staff to notify Aboriginal Heritage Office prior to each burn to identify sites and implement protection measures and post-fire survey.
m. This reserve has a valuable role as an educational resource. Preserve natural features used for educational purposes and continue to inform the community of bushland issues through on-site educational activities and signage. Maintain appropriate signage.
n. Formal tracks to be regularly maintained and informal tracks to be closed to prevent damage to habitat and to impede access of feral animals, unless used for access by bushland management workers.
o. Establish photo points to monitor the progress of reserve management actions.
p. Reserve Action Plan progress to be reviewed annually and updated after five years.

Animal List for North Arm Reserve

Clive 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/publications-reports-master-plans-strategies-action-plans/publications-reports-master-plans-strategies-action-plans/1-native_fauna_of_bantry_bay__sugarloaf_bay_catchments.pdf

Native Plant List for Clive Park

CONIFERS	*Hardenbergia violacea*	*Hakea sericea*
CUPRESSACEAE	*Indigofera australis*	*Hakea teretifolia*
Callitris rhomboidea	*Kennedia rubicunda*	*Lomatia silaifolia*
FERNS	*Platylobium formosum*	*Persoonia levis*
ASPLENIACEAE	*Pultenaea daphnoides*	*Persoonia pinifolia*
Asplenium australasicum	*Pultenaea tuberculata*	PRIMULACEAE
BLECHNACEAE	FABACEAE-MIMOSOIDEAE	*Myrsine variabilis*
Doodia aspera	*Acacia ulicifolia*	RUBIACEAE
CYATHEACEAE	*Acacia decurrens*	*Opercularia aspera*
Cyathea cooperi	*Acacia elata*	*Pomax umbellata*
DENNSTAEDTIACEAE	*Acacia floribunda*	RUTACEAE
Pteridium esculentum	*Acacia linifolia*	*Crowea saligna*
DICKSONIACEAE	*Acacia longifolia subsp. longifolia*	*Phebalium dentatum*
Calochlaena dubia	*Acacia mearnsii*	*Zieria pilosa*
GLEICHENIACEAE	*Acacia suaveolens*	*Zieria smithii*
Gleichenia dicarpa	*Acacia terminalis*	SANTALACEAE
LINDSAEACEAE	HALORAGACEAE	*Exocarpos cupressiformis*
Lindsaea linearis	*Gonocarpus micranthus*	SAPINDACEAE
PTERIDACEAE	*Gonocarpus teucrioides*	*Dodonaea triquetra*
Adiantum aethiopicum	*Haloragis heterophylla*	THYMELIACEAE
Adiantum hispidulum	LAMIACEAE	*Pimelea linifolia subsp. linifolia*
Cheilanthes austrotenuifolia	*Clerodendrum tomentosum*	*Wikstroemia indica*
Pellaea falcata	*Plectranthus parviflorus*	VITACEAE
THELYPTERIDACEAE	LAURACEAE	*Cissus antarctica*
Christella dentata	*Cassytha paniculata*	*Cissus hypoglauca*
DICOTS	MALVACEAE	***MONOCOTS***
ACANTHACEAE	*Lasiopetalum ferrugineum*	COMMELINACEAE
Pseuderanthemum variabile	MENISPERMACEAE	*Commelina cyanea*
APIACEAE	*Stephania japonica*	CYPERACEAE
Centella asiatica	MORACEAE	*Gahnia erythrocarpa*
Platysace linearifolia	*Ficus rubiginosa*	*Lepidosperma laterale*
Xanthosia pilosa	MYRTACEAE	*Lepidosperma longitudinale*
APOCYNACEAE	*Acmena smithii*	*Schoenus melanostachys*
Marsdenia suaveolens	*Angophora costata*	IRIDACEAE
Parsonsia straminea	*Corymbia gummifera*	*Patersonia sericea*
ARALIACEAE	*Corymbia maculata*	JUNCACEAE
Hydrocotyle sibthorpioides	*Eucalyptus botryoides*	*Juncus usitatus*
Polyscias sambucifolia	*Eucalyptus haemastoma*	LOMANDRACEAE
Tylophora barbata	*Eucalyptus pilularis*	*Lomandra cylindrica*
ASTERACEAE	*Eucalyptus piperita*	*Lomandra filiformis*
Cassinia denticulata	*Eucalyptus punctata*	*Lomandra longifolia*
BIGNONIACEAE	*Eucalyptus resinifera*	*Lomandra obliqua*
Pandorea pandorana	*Kunzea ambigua*	PHORMIACEAE
CAMPANULACEAE	*Leptospermum laevigatum*	*Dianella caerulea*
Lobelia andrewsii	*Leptospermum squarrosum*	*Dianella revoluta*
Lobelia purpurascens	*Leptospermum trinervium*	UVULARIACEAE
Wahlenbergia gracilis	*Melaleuca quinquenervia*	*Schelhammera undulata*
Wahlenbergia stricta	*Melaleuca styphelioides*	LUZURIAGACEAE
CASUARINACEAE	OLEACEAE	*Eustrephus latifolius*
Allocasuarina littoralis	*Notelaea longifolia*	*Geitonoplesium cymosum*
Casuarina glauca	PHYLLANTHACEAE	ORICDACEAE
CONVOLVULACEAE	*Breynia oblongifolia*	*Cryptostylis erecta*
Dichondra repens	*Glochidion ferdinandi*	POACEAE
CUNONIACEAE	*Homalanthus populifolius*	*Anisopogon avenaceus*
Bauera rubioides	*Phyllanthus hirtellus*	*Cymbopogon refractus*
Callicoma serratifolia	PICRODENDRACEAE	*Dichelachne crinita*
Ceratopetalum gummiferum	*Micrantheum ericoides*	*Digitaria parviflora*
DILLENIACEAE	PITTOSPORACEAE	*Echinopogon caespitosus*
Hibbertia linearis	*Billardiera scandens*	*Entolasia marginata*
Hibbertia obtusifolia	*Pittosporum revolutum*	*Entolasia stricta*
Hibbertia scandens	*Pittosporum undulatum*	*Eragrostis brownii*
ELAEOCARPACEAE	PLANTAGINACEAE	*Imperata cylindrica*
Elaeocarpus reticulatus	*Veronica plebeia*	*Microlaena stipoides*
ERICACEAE-EPACRIDOIDEAE	POLYGONACEAE	*Oplismenus imbecillis*
Epacris longiflora	*Rumex brownii*	*Paspalidium aversum*
Epacris pulchella	PROTEACEAE	*Themeda triandra*
Woollsia pungens	*Banksia ericifolia*	SMILACACEAE
EUPHORBIACEAE	*Banksia integrifolia*	*Smilax glyciphylla*
Amperea xiphoclada	*Banksia marginata*	XANTHORRHOEACEAE
FABACEAE - FABOIDEAE	*Banksia serrata*	*Xanthorrhoea arborea*
Glycine clandestina	*Grevillea linearifolia*	*Xanthorrhoea media*
Gompholobium grandiflorum	*Hakea dactyloides*	
Gompholobium latifolium	*Hakea gibbosa*	